

Pdisp Input and Output

Model: Demolition

Job No.	Sheet No.	Rev.
Drg. Ref.		
Made by	Date	Checked

Name	Location		Z[Level] [mOD]	Z [mm]	Calc Level [mOD]	Stresses		Vert Strain [-]
	X [m]	Y [m]				Vert Stress [kN/m ²]	Sum Princ [kN/m ²]	
28.33387	35.41264	0.00000	-0.054409	-0.24574	-18.169E-6	-0.054509	4.5374E-6	
27.94643	35.13132	0.00000	-0.049904	-0.24574	-16.947E-6	-0.052282	4.3522E-6	
27.55900	34.85000	0.00000	-0.045437	-0.24574	-15.763E-6	-0.050074	4.1684E-6	

Pdisp Input and Output

Model: Long-term scheme

Job No.	Sheet No.	Rev.
Drg. Ref.		
Made by	Date	Checked

Name	Location		Z [Level] [mOD]	Z [mm]	Calc Level [mOD]	Stresses		Vert Strain [-]
	X [m]	Y [m]				Vert Stress [kN/m ²]	Sum Princ [kN/m ²]	
31.04591	37.38186	0.00000	0.66948	-0.24574	0.0	0.0	0.0	
30.65848	37.10054	0.00000	0.64993	-0.24574	0.0	0.0	0.0	
30.27104	36.81922	0.00000	0.62965	-0.24574	0.0	0.0	0.0	
29.88361	36.53790	0.00000	0.60879	-0.24574	0.0	0.0	0.0	
29.49617	36.25659	0.00000	0.58746	-0.24574	0.0	0.0	0.0	
29.10874	35.97527	0.00000	0.56578	-0.24574	0.0	0.0	0.0	
28.72130	35.69395	0.00000	0.54388	-0.24574	0.0	0.0	0.0	
28.33387	35.41264	0.00000	0.52187	-0.24574	0.0	0.0	0.0	
27.94643	35.13132	0.00000	0.49986	-0.24574	0.0	0.0	0.0	
27.55900	34.85000	0.00000	0.47796	-0.24574	0.0	0.0	0.0	

Xdisp Input and Output

Model: Demolition

Job No.	Sheet No.	Rev.
Drg. Ref.		
Made by	Date	Checked
	08-Nov-2017	

Type/No.	Coordinates	Displacements			Angle of Line						
Name	Dist.	x	y	z	to x Axis						
				Horizontal displacement	Horizontal displacement						
B17	Line 23	4.4411	20.02000	13.18500	0.00000	0.0	0.0	0.024694	0.0	0.0	305.69 *
		0.48838	19.64200	12.87575	0.00000	0.0	0.0	0.025187	0.0	0.0	219.29 *
		0.97677	19.26400	12.56650	0.00000	0.0	0.0	0.025585	0.0	0.0	219.29 *
		1.4652	18.88600	12.25725	0.00000	0.0	0.0	0.025999	0.0	0.0	219.29 *
		1.9535	18.50800	11.94800	0.00000	0.0	0.0	0.026436	0.0	0.0	219.29 *
B18	Line 24	0.43983	18.77567	11.59900	0.00000	0.0	0.0	0.026124	0.0	0.0	307.49 *
		0.87965	19.04333	11.25000	0.00000	0.0	0.0	0.026115	0.0	0.0	307.49 *
		1.3195	19.31100	10.90100	0.00000	0.0	0.0	0.026108	0.0	0.0	307.49 *
B19	Line 25	0.47300	18.93320	10.61640	0.00000	0.0	0.0	0.026282	0.0	0.0	216.99 *
		0.94600	18.55540	10.33180	0.00000	0.0	0.0	0.026396	0.0	0.0	216.99 *
		1.4190	18.17760	10.04720	0.00000	0.0	0.0	0.026457	0.0	0.0	216.99 *
		1.8920	17.79980	9.76260	0.00000	0.0	0.0	0.026469	0.0	0.0	216.99 *
		2.3650	17.42260	9.47800	0.00000	0.0	0.0	0.026439	0.0	0.0	216.99 *
B20	Line 26	0.46116	17.70327	9.11255	0.00000	0.0	0.0	0.026440	0.0	0.0	307.58 *
		0.92233	17.98455	8.74709	0.00000	0.0	0.0	0.026440	0.0	0.0	307.58 *
		1.3835	18.26582	8.38164	0.00000	0.0	0.0	0.026440	0.0	0.0	307.58 *
		1.8447	18.54709	8.01618	0.00000	0.0	0.0	0.026439	0.0	0.0	307.58 *
		2.3058	18.82836	7.65073	0.00000	0.0	0.0	0.026438	0.0	0.0	307.58 *
		2.7670	19.10964	7.28527	0.00000	0.0	0.0	0.026436	0.0	0.0	307.58 *
		3.2281	19.39091	6.91992	0.00000	0.0	0.0	0.026433	0.0	0.0	307.58 *
		3.6893	19.67218	6.55436	0.00000	0.0	0.0	0.026430	0.0	0.0	307.58 *
		4.1505	19.95345	6.18892	0.00000	0.0	0.0	0.026429	0.0	0.0	307.58 *
		4.6116	20.23473	5.82345	0.00000	0.0	0.0	0.026419	0.0	0.0	307.58 *
		5.0728	20.51600	5.45800	0.00000	0.0	0.0	0.026413	0.0	0.0	307.58 *
C1	Line 27	0.45629	36.00578	30.31011	0.00000	0.0	0.0	-1.4369	0.0	0.0	127.89 *
		0.91259	35.72586	30.47022	0.00000	0.0	0.0	-1.1730	0.0	0.0	127.89 *
		1.3689	35.44533	31.03033	0.00000	0.0	0.0	-0.82669	0.0	0.0	127.89 *
		1.8252	35.16511	31.39044	0.00000	0.0	0.0	-0.70645	0.0	0.0	127.89 *
		2.2815	34.88489	31.75056	0.00000	0.0	0.0	-0.60847	0.0	0.0	127.89 *
		2.7378	34.60467	32.11067	0.00000	0.0	0.0	-0.52627	0.0	0.0	127.89 *
		3.1941	34.32444	32.47078	0.00000	0.0	0.0	-0.45892	0.0	0.0	127.89 *
		3.6504	34.04422	32.83089	0.00000	0.0	0.0	-0.40084	0.0	0.0	127.89 *
		4.1066	33.76400	33.19100	0.00000	0.0	0.0	-0.35102	0.0	0.0	127.89 *
C2	Line 28	0.48792	33.36471	32.91057	0.00000	0.0	0.0	-0.33089	0.0	0.0	215.08 *
		0.97585	32.96543	32.63014	0.00000	0.0	0.0	-0.31029	0.0	0.0	215.08 *
		1.4638	32.56614	32.34971	0.00000	0.0	0.0	-0.28945	0.0	0.0	215.08 *
		1.9517	32.16686	32.06929	0.00000	0.0	0.0	-0.26865	0.0	0.0	215.08 *
		2.4396	31.76757	31.78886	0.00000	0.0	0.0	-0.24813	0.0	0.0	215.08 *
		2.9275	31.36829	31.50839	0.00000	0.0	0.0	-0.22811	0.0	0.0	215.08 *
		3.4155	30.96900	31.22800	0.00000	0.0	0.0	-0.20875	0.0	0.0	215.08 *
C3	Line 29	0.48944	30.68767	31.62850	0.00000	0.0	0.0	-0.18496	0.0	0.0	125.09 *
		0.97887	30.40633	32.02900	0.00000	0.0	0.0	-0.16354	0.0	0.0	125.09 *
		1.46893	30.12500	32.42950	0.00000	0.0	0.0	-0.14295	0.0	0.0	125.09 *
		1.9577	29.84367	32.83000	0.00000	0.0	0.0	-0.12586	0.0	0.0	125.09 *
		2.4472	29.56233	33.23050	0.00000	0.0	0.0	-0.11117	0.0	0.0	125.09 *
		2.9366	29.28100	33.63100	0.00000	0.0	0.0	-0.097018	0.0	0.0	125.09 *
C4	Line 30	0.48464	29.28100	33.63100	0.00000	0.0	0.0	-0.14660	0.0	0.0	36.931 *
		0.96928	30.05580	34.21340	0.00000	0.0	0.0	-0.11234	0.0	0.0	36.931 *
		1.4539	30.44320	34.50460	0.00000	0.0	0.0	-0.11999	0.0	0.0	36.931 *
		1.9386	30.83060	34.79580	0.00000	0.0	0.0	-0.12752	0.0	0.0	36.931 *
		2.4232	31.21800	35.08700	0.00000	0.0	0.0	-0.13489	0.0	0.0	36.931 *
C5	Line 31	0.48566	33.74338	31.08700	0.00000	0.0	0.0	-0.14559	0.0	0.0	60.787 *
		0.42208	31.42400	35.45540	0.00000	0.0	0.0	-0.13377	0.0	0.0	60.787 *
		0.84417	31.63000	35.82380	0.00000	0.0	0.0	-0.13220	0.0	0.0	60.787 *
		1.2663	31.83600	36.19220	0.00000	0.0	0.0	-0.13022	0.0	0.0	60.787 *
		1.6883	32.04200	36.56060	0.00000	0.0	0.0	-0.12784	0.0	0.0	60.787 *
		2.1104	32.24800	36.92900	0.00000	0.0	0.0	-0.12509	0.0	0.0	60.787 *
C6	Line 32	0.46414	32.62185	37.20408	0.00000	0.0	0.0	-0.12931	0.0	0.0	36.346 *
		0.92829	32.99569	37.47915	0.00000	0.0	0.0	-0.13315	0.0	0.0	36.346 *
		1.3924	33.36954	37.75423	0.00000	0.0	0.0	-0.13656	0.0	0.0	36.346 *
		1.8566	33.74338	38.02931	0.00000	0.0	0.0	-0.13951	0.0	0.0	36.346 *
		2.3207	34.11723	38.30438	0.00000	0.0	0.0	-0.14197	0.0	0.0	36.346 *
		2.7849	34.49108	38.57946	0.00000	0.0	0.0	-0.14393	0.0	0.0	36.346 *
		3.2490	34.86492	38.85454	0.00000	0.0	0.0	-0.14536	0.0	0.0	36.346 *
		3.7131	35.23877	39.12962	0.00000	0.0	0.0	-0.14625	0.0	0.0	36.346 *
		4.1773	35.61262	39.40469	0.00000	0.0	0.0	-0.14652	0.0	0.0	36.346 *
		4.6414	35.98646	39.67977	0.00000	0.0	0.0	-0.14638	0.0	0.0	36.346 *
		5.1056	36.36031	39.95485	0.00000	0.0	0.0	-0.14562	0.0	0.0	36.346 *
		5.5697	36.73415	40.22992	0.00000	0.0	0.0	-0.14432	0.0	0.0	36.346 *
		6.0339	37.10800	40.50500	0.00000	0.0	0.0	-0.14248	0.0	0.0	36.346 *
C7	Line 33	0.44342	37.37100	40.14800	0.00000	0.0	0.0	-0.16265	0.0	0.0	306.38 *
		0.88684	37.37100	40.14800	0.00000	0.0	0.0	-0.16265	0.0	0.0	306.38 *
		1.33026	37.71400	40.44270	0.00000	0.0	0.0	-0.15972	0.0	0.0	306.35 *
		1.77370	38.05700	40.73740	0.00000	0.0	0.0	-0.15617	0.0	0.0	306.35 *
		2.21714	38.40000	41.03210	0.00000	0.0	0.0	-0.15281	0.0	0.0	306.35 *
		2.66058	38.74300	41.32680	0.00000	0.0	0.0	-0.14979	0.0	0.0	306.35 *
		3.10402	39.08600	41.62150	0.00000	0.0	0.0	-0.14677	0.0	0.0	306.35 *
		3.54746	39.42900	41.91620	0.00000	0.0	0.0	-0.14375	0.0	0.0	306.35 *
		3.99090	39.77200	42.21090	0.00000	0.0	0.0	-0.14073	0.0	0.0	306.35 *
		4.43434	40.11500	42.50560	0.00000	0.0	0.0	-0.13771	0.0	0.0	306.35 *
		4.87778	40.45800	42.80030	0.00000	0.0	0.0	-0.13469	0.0	0.0	306.35 *
		5.32122	40.80100	43.09500	0.00000	0.0	0.0	-0.13167	0.0	0.0	306.35 *
		5.76466	41.14400	43.38970	0.00000	0.0	0.0	-0.12865	0.0	0.0	306.35 *
		6.20810	41.48700	43.68440	0.00000	0.0	0.0	-0.12563	0.0	0.0	306.35 *
		6.65154	41.83000	43.97910	0.00000	0.0	0.0	-0.12261	0.0	0.0	306.35 *
		7.09498	42.17300	44.27380	0.00000	0.0	0.0	-0.11959	0.0	0.0	306.35 *
		7.53842	42.51600	44.56850	0.00000	0.0	0.0	-0.11657	0.0	0.0	306.35 *
		7.98186	42.85900	44.86320	0.00000	0.0	0.0	-0.11355	0.0	0.0	306.35 *
		8.42530	43.20200	45.15790	0.00000	0.0	0.0	-0.11053	0.0	0.0	306.35 *
		8.86874	43.54500	45.45260	0.00000	0.0	0.0	-0.10751	0.0	0.0	306.35 *
		9.31218									



1_8StCuthber_demolition

Job No.	Sheet No.	Rev.
Drg. Ref.		
Made by	Date	Checked
	08-Nov-2017	

Type/No.	Coordinates			Displacements			Angle of Line
Name	Dist.	x	y	z	x	y	to x Axis
				Horizontal displacement	Horizontal displacement		
1.9375	26.41411	36.41311	0.00000	0.0	0.0	0.0	126.22 *
2.4219	26.12789	36.80389	0.00000	0.0	0.0	0.0	126.22 *
2.9063	25.84167	37.19467	0.00000	0.0	0.0	0.0	126.22 *
3.3907	25.55544	37.58544	0.00000	0.0	0.0	0.0	126.22 *
3.8751	25.26922	37.97622	0.00000	0.0	0.0	0.0	126.22 *
4.3595	24.98300	38.36700	0.00000	0.0	0.0	0.0	126.22 *
D2 Line 40	24.98300	38.36700	0.00000	0.0	0.0	0.0	216.23 *
0.49046	24.58738	38.07712	0.00000	0.0	0.0	0.0	216.23 *
0.98091	24.19175	37.78725	0.00000	0.0	0.0	0.0	216.23 *
1.4714	23.79613	37.49737	0.00000	0.0	0.0	0.0	216.23 *
1.9617	23.40050	37.20750	0.00000	0.0	0.0	0.0	216.23 *
2.4523	23.00488	36.91763	0.00000	0.0	0.0	0.0	216.23 *
2.9427	22.60925	36.62775	0.00000	0.0	0.0	0.0	216.23 *
3.4332	22.21363	36.33788	0.00000	0.0	0.0	0.0	216.23 *
3.9236	21.81800	36.04800	0.00000	0.0	0.0	0.0	216.23 *
D3 Line 41	21.81800	36.04800	0.00000	0.0	0.0	0.0	125.27 *
0.47627	21.54300	36.43686	0.00000	0.0	0.0	0.0	125.27 *
0.95254	21.26800	36.82571	0.00000	0.0	0.0	0.0	125.27 *
1.4288	20.99300	37.21457	0.00000	0.0	0.0	0.0	125.27 *
1.9051	20.71800	37.60343	0.00000	0.0	0.0	0.0	125.27 *
2.3814	20.44300	37.99229	0.00000	0.0	0.0	0.0	125.27 *
2.8576	20.16800	38.38114	0.00000	0.0	0.0	0.0	125.27 *
3.3339	19.89300	38.77000	0.00000	0.0	0.0	0.0	125.27 *
D4 Line 42	19.89300	38.77000	0.00000	0.0	0.0	0.0	35.945 *
0.48525	20.28585	39.05497	0.00000	0.0	0.0	0.0	35.945 *
0.97050	20.57170	39.44390	0.00000	0.0	0.0	0.0	35.945 *
1.4558	21.07155	39.83285	0.00000	0.0	0.0	0.0	35.945 *
1.9410	21.46439	40.22179	0.00000	0.0	0.0	0.0	35.945 *
2.4263	21.85724	40.61074	0.00000	0.0	0.0	0.0	35.945 *
2.9115	22.25009	41.00000	0.00000	0.0	0.0	0.0	35.945 *
3.3968	22.64294	41.38925	0.00000	0.0	0.0	0.0	35.945 *
3.8820	23.03579	41.77850	0.00000	0.0	0.0	0.0	35.945 *
4.3673	23.42864	42.16775	0.00000	0.0	0.0	0.0	35.945 *
4.8525	23.82148	42.55700	0.00000	0.0	0.0	0.0	35.945 *
5.3378	24.21433	42.94625	0.00000	0.0	0.0	0.0	35.945 *
5.8230	24.60718	43.33550	0.00000	0.0	0.0	0.0	35.945 *
6.3083	25.00003	43.72475	0.00000	0.0	0.0	0.0	35.945 *
6.7935	25.39288	44.11400	0.00000	0.0	0.0	0.0	35.945 *
7.2788	25.78573	44.50325	0.00000	0.0	0.0	0.0	35.945 *
7.7640	26.17858	44.89250	0.00000	0.0	0.0	0.0	35.945 *
8.2493	26.57143	45.28175	0.00000	0.0	0.0	0.0	35.945 *
8.7345	26.96427	45.67100	0.00000	0.0	0.0	0.0	35.945 *
9.2198	27.35712	46.06025	0.00000	0.0	0.0	0.0	35.945 *
9.7050	27.74997	46.44950	0.00000	0.0	0.0	0.0	35.945 *
10.1903	28.14282	46.83875	0.00000	0.0	0.0	0.0	35.945 *
10.6756	28.53567	47.22800	0.00000	0.0	0.0	0.0	35.945 *
11.1609	28.92852	47.61725	0.00000	0.0	0.0	0.0	35.945 *
11.6462	29.32137	48.00650	0.00000	0.0	0.0	0.0	35.945 *
12.1315	29.71422	48.39575	0.00000	0.0	0.0	0.0	35.945 *
12.6168	30.10707	48.78500	0.00000	0.0	0.0	0.0	35.945 *
13.1021	30.49992	49.17425	0.00000	0.0	0.0	0.0	35.945 *
13.5874	30.89277	49.56350	0.00000	0.0	0.0	0.0	35.945 *
14.0727	31.28562	49.95275	0.00000	0.0	0.0	0.0	35.945 *
14.5580	31.67847	50.34200	0.00000	0.0	0.0	0.0	35.945 *
15.0433	32.07132	50.73125	0.00000	0.0	0.0	0.0	35.945 *
15.5286	32.46417	51.12050	0.00000	0.0	0.0	0.0	35.945 *
16.0139	32.85702	51.50975	0.00000	0.0	0.0	0.0	35.945 *
D5 Line 43	32.85700	48.17000	0.00000	0.0	0.0	0.0	306.49 *
0.44175	33.11971	47.81486	0.00000	0.0	0.0	0.0	306.49 *
0.89350	33.38243	47.45971	0.00000	0.0	0.0	0.0	306.49 *
1.3253	33.64514	47.10457	0.00000	0.0	0.0	0.0	306.49 *
1.7670	33.90786	46.74943	0.00000	0.0	0.0	0.0	306.49 *
2.2088	34.17057	46.39429	0.00000	0.0	0.0	0.0	306.49 *
2.6505	34.43329	46.03914	0.00000	0.0	0.0	0.0	306.49 *
3.0923	34.69600	45.68400	0.00000	0.0	0.0	0.0	306.49 *
D6 Line 44	34.69600	45.68400	0.00000	0.0	0.0	0.0	216.48 *
0.38681	34.38500	45.45400	0.00000	0.0	0.0	0.0	216.48 *
0.77362	34.07400	45.22400	0.00000	0.0	0.0	0.0	216.48 *
1.1604	33.76300	44.99400	0.00000	0.0	0.0	0.0	216.48 *
D7 Line 45	33.76300	44.99400	0.00000	0.0	0.0	0.0	306.38 *
0.45636	34.03370	44.62660	0.00000	0.0	0.0	0.0	306.38 *
0.91271	34.30440	44.25920	0.00000	0.0	0.0	0.0	306.38 *
1.3691	34.57510	43.89180	0.00000	0.0	0.0	0.0	306.38 *
1.8254	34.84580	43.52440	0.00000	0.0	0.0	0.0	306.38 *
2.2818	35.11650	43.15700	0.00000	0.0	0.0	0.0	306.38 *
2.7381	35.38720	42.78960	0.00000	0.0	0.0	0.0	306.38 *
3.1945	35.65790	42.42220	0.00000	0.0	0.0	0.0	306.38 *
3.6509	35.92860	42.05480	0.00000	0.0	0.0	0.0	306.38 *
4.1072	36.19930	41.68740	0.00000	0.0	0.0	0.0	306.38 *
4.5636	36.47000	41.32000	0.00000	0.0	0.0	0.0	306.38 *
D8 Line 46	36.47000	41.32000	0.00000	0.0	0.0	0.0	215.98 *
0.47879	36.08257	41.03870	0.00000	0.0	0.0	0.0	215.98 *
0.95758	35.69513	40.75739	0.00000	0.0	0.0	0.0	215.98 *
1.4364	35.30770	40.47609	0.00000	0.0	0.0	0.0	215.98 *
1.9152	34.92026	40.19479	0.00000	0.0	0.0	0.0	215.98 *
2.3939	34.53283	39.91348	0.00000	0.0	0.0	0.0	215.98 *
2.8727	34.14539	39.63217	0.00000	0.0	0.0	0.0	215.98 *
3.3515	33.75796	39.35087	0.00000	0.0	0.0	0.0	215.98 *
3.8303	33.37052	39.06957	0.00000	0.0	0.0	0.0	215.98 *
4.3091	32.98309	38.78826	0.00000	0.0	0.0	0.0	215.98 *
4.7879	32.59565	38.50696	0.00000	0.0	0.0	0.0	215.98 *
5.2667	32.20822	38.22565	0.00000	0.0	0.0	0.0	215.98 *
5.7455	31.82078	37.94435	0.00000	0.0	0.0	0.0	215.98 *
6.2242	31.43335	37.66304	0.00000	0.0	0.0	0.0	215.98 *
6.7030	31.04591	37.38174	0.00000	0.0	0.0	0.0	215.98 *
7.1818	30.65848	37.10043	0.00000	0.0	0.0	0.0	215.98 *
7.6606	30.27104	36.81913	0.00000	0.0	0.0	0.0	215.98 *
8.1394	29.88361	36.53783	0.00000	0.0	0.0	0.0	215.98 *
8.6182	29.49617	36.25652	0.00000	0.0	0.0	0.0	215.98 *
9.0970	29.10874	35.97522	0.00000	0.0	0.0	0.0	215.98 *
9.5758	28.72130	35.69391	0.00000	0.0	0.0	0.0	215.98 *
10.0546	28.33387	35.41261	0.00000	0.0	0.0	0.0	215.98 *
10.5334	27.94643	35.13130	0.00000	0.0	0.0	0.0	215.98 *
11.0122	27.55900	34.85000	0.00000	0.0	0.0	0.0	215.98 *

* Result includes imported displacement(s).

Specific Building Damage Results - Horizontal Displacements

Structure: A | Sub-structure: A1

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
				Horizontal displacement along the line	Horizontal displacement perpendicular to line	
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	29.57700	22.24700	0.00000	0.0	0.0	0.0 d
0.47829	29.95067	22.54556	0.00000	0.0	0.0	0.0 d
0.95658	30.32433	22.84411	0.00000	0.0	0.0	0.0 d
1.43489	30.69800	23.14267	0.00000	0.0	0.0	0.0 d
1.9132	31.07167	23.44122	0.00000	0.0	0.0	0.0 d
2.3915	31.44533	23.73978	0.00000	0.0	0.0	0.0 d
2.8697	31.81900	24.03833	0.00000	0.0	0.0	0.0 d
3.3480	32.19267	24.33689	0.00000	0.0	0.0	0.0 d
3.8263	32.56633	24.63544	0.00000	0.0	0.0	0.0 d
4.3046	32.94000	24.93400	0.00000	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: A | Sub-structure: A2

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
				Horizontal displacement along the line	Horizontal displacement perpendicular to line	
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	32.94000	24.93400	0.00000	0.0	0.0	0.0 d



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Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
0.41896	33.20150	24.60667	0.00000	0.0	0.0	0.0
0.83792	33.46300	24.27933	0.00000	0.0	0.0	0.0
1.25659	33.72450	23.95200	0.00000	0.0	0.0	0.0
1.6758	33.98600	23.62467	0.00000	0.0	0.0	0.0
2.0948	34.24750	23.29733	0.00000	0.0	0.0	0.0
2.5138	34.50900	22.97000	0.00000	0.0	0.0	0.0

Structure: A | Sub-structure: A3

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	34.50900	22.97000	0.00000	0.0	0.0	0.0
0.47280	34.87837	23.26512	0.00000	0.0	0.0	0.0
0.94559	35.24775	23.56025	0.00000	0.0	0.0	0.0
1.41896	35.61713	23.85537	0.00000	0.0	0.0	0.0
1.8912	35.98650	24.15050	0.00000	0.0	0.0	0.0
2.3640	36.35587	24.44563	0.00000	0.0	0.0	0.0
2.8368	36.72525	24.74075	0.00000	0.0	0.0	0.0
3.3096	37.09463	25.03588	0.00000	0.0	0.0	0.0
3.7824	37.46400	25.33100	0.00000	0.0	0.0	0.0

Structure: A | Sub-structure: A4

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	37.46400	25.33100	0.00000	0.0	0.0	0.0
0.48725	37.83337	24.62612	0.00000	0.0	0.0	0.0
0.97450	38.20275	24.92125	0.00000	0.0	0.0	0.0
1.4618	38.57212	25.21637	0.00000	0.0	0.0	0.0
1.9490	38.94150	25.51150	0.00000	0.0	0.0	0.0
2.4363	39.31087	25.80663	0.00000	0.0	0.0	0.0
2.9235	39.68025	26.10175	0.00000	0.0	0.0	0.0
3.4108	40.04963	26.39688	0.00000	0.0	0.0	0.0
3.8980	40.41900	26.69200	0.00000	0.0	0.0	0.0

Structure: A | Sub-structure: A5

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	39.77100	22.18900	0.00000	0.0	0.0	0.0
0.49935	39.14834	21.87975	0.00000	0.0	0.0	0.0
0.99870	38.52568	21.57050	0.00000	0.0	0.0	0.0
1.4980	37.90302	21.26125	0.00000	0.0	0.0	0.0
1.9974	37.28036	20.95200	0.00000	0.0	0.0	0.0
2.4967	36.65770	20.64275	0.00000	0.0	0.0	0.0
2.9961	36.03504	20.33350	0.00000	0.0	0.0	0.0
3.4954	35.41238	20.02425	0.00000	0.0	0.0	0.0
3.9948	34.78972	19.71500	0.00000	0.0	0.0	0.0
4.4941	34.16706	19.40575	0.00000	0.0	0.0	0.0
4.9935	33.54440	19.09650	0.00000	0.0	0.0	0.0
5.4928	32.92174	18.78725	0.00000	0.0	0.0	0.0
5.9922	32.29908	18.47800	0.00000	0.0	0.0	0.0
6.4915	31.67642	18.16875	0.00000	0.0	0.0	0.0
6.9909	31.05376	17.85950	0.00000	0.0	0.0	0.0
7.4902	30.43110	17.55025	0.00000	0.0	0.0	0.0
7.9896	29.80844	17.24100	0.00000	0.0	0.0	0.0

Structure: A | Sub-structure: A6

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	32.49800	17.24100	0.00000	0.0	0.0	0.0
0.48914	33.19638	17.62608	0.00000	0.0	0.0	0.0
0.97828	33.89477	18.01115	0.00000	0.0	0.0	0.0
1.46742	34.59315	18.39623	0.00000	0.0	0.0	0.0
1.9566	35.29154	18.78130	0.00000	0.0	0.0	0.0
2.4457	35.98992	19.16638	0.00000	0.0	0.0	0.0
2.9348	36.68831	19.55146	0.00000	0.0	0.0	0.0
3.4240	37.38669	19.93654	0.00000	0.0	0.0	0.0
3.9131	38.08508	20.32162	0.00000	0.0	0.0	0.0
4.4022	38.78346	20.70669	0.00000	0.0	0.0	0.0
4.8914	39.48185	21.09177	0.00000	0.0	0.0	0.0
5.3805	40.18023	21.47685	0.00000	0.0	0.0	0.0
5.8697	40.87862	21.86192	0.00000	0.0	0.0	0.0
6.3588	41.57700	22.24700	0.00000	0.0	0.0	0.0

Structure: B | Sub-structure: B1

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	20.51600	5.45800	0.00000	0.0	0.0	0.0
0.48720	20.90600	5.75000	0.00000	0.0	0.0	0.0
0.97440	21.29600	6.04200	0.00000	0.0	0.0	0.0
1.4616	21.68600	6.33400	0.00000	0.0	0.0	0.0
1.9488	22.07600	6.62600	0.00000	0.0	0.0	0.0
2.4360	22.46600	6.91800	0.00000	0.0	0.0	0.0
2.9232	22.85600	7.21000	0.00000	0.0	0.0	0.0
3.4104	23.24600	7.50200	0.00000	0.0	0.0	0.0
3.8976	23.63600	7.79400	0.00000	0.0	0.0	0.0

Structure: B | Sub-structure: B2

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	23.63600	7.79400	0.00000	0.0	0.0	0.0
0.46125	23.35400	8.15900	0.00000	0.0	0.0	0.0
0.92249	23.07200	8.52400	0.00000	0.0	0.0	0.0

Structure: B | Sub-structure: B3

Dist.	Coordinates	Displacements
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x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	23.07200	8.52400	0.00000	0.0	0.0	0.0 d
0.46917	23.44845	8.30800	0.00000	0.0	0.0	0.0 d
0.93835	23.81891	9.09200	0.00000	0.0	0.0	0.0 d
1.4075	24.19236	9.37600	0.00000	0.0	0.0	0.0 d
1.8767	24.56582	9.66000	0.00000	0.0	0.0	0.0 d
2.3459	24.93927	9.94400	0.00000	0.0	0.0	0.0 d
2.8150	25.31273	10.22800	0.00000	0.0	0.0	0.0 d
3.2842	25.68618	10.51200	0.00000	0.0	0.0	0.0 d
3.7534	26.05964	10.79600	0.00000	0.0	0.0	0.0 d
4.2226	26.43309	11.08000	0.00000	0.0	0.0	0.0 d
4.6917	26.80655	11.36400	0.00000	0.0	0.0	0.0 d
5.1609	27.18000	11.64800	0.00000	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: B | Sub-structure: B4

Dist.	Coordinates			Displacements		
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	27.18000	11.64800	0.00000	0.0	0.0	0.0 d
0.36061	27.39833	11.36100	0.00000	0.0	0.0	0.0 d
0.72122	27.61667	11.07400	0.00000	0.0	0.0	0.0 d
1.0818	27.83500	10.78700	0.00000	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: B | Sub-structure: B5

Dist.	Coordinates			Displacements		
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	27.83500	10.78700	0.00000	0.0	0.0	0.0 d
0.48959	28.27292	11.07900	0.00000	0.0	0.0	0.0 d
0.97918	28.62085	11.37115	0.00000	0.0	0.0	0.0 d
1.4688	29.01377	11.66323	0.00000	0.0	0.0	0.0 d
1.9584	29.40669	11.95531	0.00000	0.0	0.0	0.0 d
2.4479	29.79962	12.24738	0.00000	0.0	0.0	0.0 d
2.9375	30.19254	12.53946	0.00000	0.0	0.0	0.0 d
3.4271	30.58546	12.83154	0.00000	0.0	0.0	0.0 d
3.9167	30.97838	13.12362	0.00000	0.0	0.0	0.0 d
4.4063	31.37131	13.41569	0.00000	0.0	0.0	0.0 d
4.8959	31.76423	13.70777	0.00000	0.0	0.0	0.0 d
5.3855	32.15715	13.99985	0.00000	0.0	0.0	0.0 d
5.8751	32.55008	14.29192	0.00000	0.0	0.0	0.0 d
6.3647	32.94300	14.58400	0.00000	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: B | Sub-structure: B6

Dist.	Coordinates			Displacements		
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	32.94300	14.58400	0.00000	0.0	0.0	0.0 d
0.35614	32.73033	14.86967	0.00000	0.0	0.0	0.0 d
0.71227	32.51767	15.15533	0.00000	0.0	0.0	0.0 d
1.0684	32.30500	15.44100	0.00000	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: B | Sub-structure: B7

Dist.	Coordinates			Displacements		
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	32.30500	15.44100	0.00000	0.0	0.0	0.0 d
0.36690	32.60133	15.65733	0.00000	0.0	0.0	0.0 d
0.73379	32.89767	15.87367	0.00000	0.0	0.0	0.0 d
1.1007	33.19400	16.09000	0.00000	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: B | Sub-structure: B8

Dist.	Coordinates			Displacements		
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	33.19400	16.09000	0.00000	0.0	0.0	0.0 d
0.48246	32.90414	16.47568	0.00000	0.0	0.0	0.0 d
0.96493	32.61427	16.86136	0.00000	0.0	0.0	0.0 d
1.4474	32.32441	17.24705	0.00000	0.0	0.0	0.0 d
1.9299	32.03455	17.63273	0.00000	0.0	0.0	0.0 d
2.4123	31.74468	18.01843	0.00000	0.0	0.0	0.0 d
2.8948	31.45482	18.40409	0.00000	0.0	0.0	0.0 d
3.3772	31.16495	18.78977	0.00000	0.0	0.0	0.0 d
3.8597	30.87509	19.17545	0.00000	0.0	0.0	0.0 d
4.3422	30.58523	19.56114	0.00000	0.0	0.0	0.0 d
4.8246	30.29536	19.94682	0.00000	0.0	0.0	0.0 d
5.3071	30.00550	20.33250	0.00000	0.0	0.0	0.0 d
5.7896	29.71564	20.71818	0.00000	0.0	0.0	0.0 d
6.2720	29.42577	21.10386	0.00000	0.0	0.0	0.0 d
6.7545	29.13591	21.48955	0.00000	0.0	0.0	0.0 d
7.2370	28.84605	21.87523	0.00000	0.0	0.0	0.0 d
7.7194	28.55618	22.26091	0.00000	0.0	0.0	0.0 d
8.2019	28.26632	22.64659	0.00000	0.0	0.0	0.0 d
8.6843	27.97645	23.03227	0.00000	0.0	0.0	0.0 d
9.1668	27.68659	23.41795	0.00000	0.0	0.0	0.0 d
9.6493	27.39673	23.80364	0.00000	0.0	0.0	0.0 d
10.132	27.10686	24.18932	0.00000	0.0	0.0	0.0 d
10.614	26.81700	24.57500	0.00000	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: B | Sub-structure: B9

Dist.	Coordinates			Displacements		
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	26.81700	24.57500	0.00000	0.0	0.0	0.0 d
0.43274	26.47567	24.30900	0.00000	0.0	0.0	0.0 d
0.86548	26.13433	24.04300	0.00000	0.0	0.0	0.0 d
1.2982	25.79300	23.77700	0.00000	0.0	0.0	0.0 d
1.7310	25.45167	23.51100	0.00000	0.0	0.0	0.0 d
2.1637	25.11033	23.24500	0.00000	0.0	0.0	0.0 d



A-SQUARED STUDIO

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Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
2.5964	24.76900	22.97900	0.00000	0.0	0.0	0.0
d - Displacements include imported displacements.						
Structure: B Sub-structure: B10						
Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	24.76900	22.97900	0.00000	0.0	0.0	0.0
0.43530	25.02950	22.63025	0.00000	0.0	0.0	0.0
0.87060	25.29000	22.28150	0.00000	0.0	0.0	0.0
1.3059	25.55050	21.93275	0.00000	0.0	0.0	0.0
1.7412	25.81100	21.58400	0.00000	0.0	0.0	0.0
d - Displacements include imported displacements.						
Structure: B Sub-structure: B11						
Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	25.81100	21.58400	0.00000	0.0	0.0	0.0
0.47915	25.43280	21.28980	0.00000	0.0	0.0	0.0
0.95831	25.05460	20.99560	0.00000	0.0	0.0	0.0
1.4375	24.67640	20.70140	0.00000	0.0	0.0	0.0
1.9166	24.29820	20.40720	0.00000	0.0	0.0	0.0
2.3958	23.92000	20.11300	0.00000	0.0	0.0	0.0
d - Displacements include imported displacements.						
Structure: B Sub-structure: B12						
Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	23.92000	20.11300	0.00000	0.0	0.0	0.0
0.47317	24.21050	19.73950	0.00000	0.0	0.0	0.0
0.94635	24.50100	19.36600	0.00000	0.0	0.0	0.0
d - Displacements include imported displacements.						
Structure: B Sub-structure: B13						
Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	24.50100	19.36600	0.00000	0.0	0.0	0.0
0.45983	24.13650	19.06633	0.00000	0.0	0.0	0.0
0.91886	23.77200	18.80667	0.00000	0.0	0.0	0.0
1.3783	23.40750	18.52700	0.00000	0.0	0.0	0.0
1.8377	23.04300	18.24733	0.00000	0.0	0.0	0.0
2.2971	22.67850	17.96767	0.00000	0.0	0.0	0.0
2.7566	22.31400	17.68800	0.00000	0.0	0.0	0.0
d - Displacements include imported displacements.						
Structure: B Sub-structure: B14						
Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	22.31400	17.68800	0.00000	0.0	0.0	0.0
0.44350	22.04420	18.04000	0.00000	0.0	0.0	0.0
0.88701	21.77440	18.39200	0.00000	0.0	0.0	0.0
1.3305	21.50460	18.74400	0.00000	0.0	0.0	0.0
1.7740	21.23480	19.09600	0.00000	0.0	0.0	0.0
2.2175	20.96500	19.44800	0.00000	0.0	0.0	0.0
d - Displacements include imported displacements.						
Structure: B Sub-structure: B15						
Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	20.96500	19.44800	0.00000	0.0	0.0	0.0
0.49138	20.57211	19.15289	0.00000	0.0	0.0	0.0
0.98276	20.17922	18.85778	0.00000	0.0	0.0	0.0
1.4741	19.78633	18.56267	0.00000	0.0	0.0	0.0
1.9655	19.39344	18.26756	0.00000	0.0	0.0	0.0
2.4569	19.00056	17.97244	0.00000	0.0	0.0	0.0
2.9483	18.60767	17.67733	0.00000	0.0	0.0	0.0
3.4396	18.21478	17.38222	0.00000	0.0	0.0	0.0
3.9310	17.82189	17.08711	0.00000	0.0	0.0	0.0
4.4224	17.42900	16.79200	0.00000	0.0	0.0	0.0
d - Displacements include imported displacements.						
Structure: B Sub-structure: B16						
Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	17.42900	16.79200	0.00000	0.0	0.0	0.0
0.49346	17.71689	16.39122	0.00000	0.0	0.0	0.0
0.98692	18.00478	15.99044	0.00000	0.0	0.0	0.0
1.4804	18.29267	15.58967	0.00000	0.0	0.0	0.0
1.9738	18.58056	15.18890	0.00000	0.0	0.0	0.0
2.4673	18.86844	14.78811	0.00000	0.0	0.0	0.0
2.9608	19.15633	14.38733	0.00000	0.0	0.0	0.0
3.4542	19.44422	13.98656	0.00000	0.0	0.0	0.0
3.9477	19.73211	13.58578	0.00000	0.0	0.0	0.0
4.4411	20.02000	13.18500	0.00000	0.0	0.0	0.0
d - Displacements include imported displacements.						
Structure: B Sub-structure: B17						
Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	20.02000	13.18500	0.00000	0.0	0.0	0.0
0.48838	19.64200	12.87575	0.00000	0.0	0.0	0.0



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Structure: B | Sub-structure: B18

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
0.97677	19.26400	12.56650	0.00000	0.0	0.0	0.0
1.4652	18.88600	12.25725	0.00000	0.0	0.0	0.0
1.9535	18.50800	11.94800	0.00000	0.0	0.0	0.0

d - Displacements include imported displacements.

Structure: B | Sub-structure: B19

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
0.43983	18.77567	11.59900	0.00000	0.0	0.0	0.0
0.87965	19.04333	11.25000	0.00000	0.0	0.0	0.0
1.3195	19.31100	10.90100	0.00000	0.0	0.0	0.0

d - Displacements include imported displacements.

Structure: B | Sub-structure: B20

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
0.47300	18.93320	10.61640	0.00000	0.0	0.0	0.0
0.94600	18.55540	10.33180	0.00000	0.0	0.0	0.0
1.4190	18.17760	10.04720	0.00000	0.0	0.0	0.0
1.8920	17.79980	9.76260	0.00000	0.0	0.0	0.0
2.3650	17.42200	9.47800	0.00000	0.0	0.0	0.0

d - Displacements include imported displacements.

Structure: C | Sub-structure: C1

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
0.46116	17.70327	9.11255	0.00000	0.0	0.0	0.0
0.92233	17.98455	8.74709	0.00000	0.0	0.0	0.0
1.3835	18.26582	8.38164	0.00000	0.0	0.0	0.0
1.8447	18.54709	8.01618	0.00000	0.0	0.0	0.0
2.3058	18.82836	7.65073	0.00000	0.0	0.0	0.0
2.7670	19.10964	7.28527	0.00000	0.0	0.0	0.0
3.2281	19.39091	6.91982	0.00000	0.0	0.0	0.0
3.6893	19.67212	6.55436	0.00000	0.0	0.0	0.0
4.1505	19.95345	6.18891	0.00000	0.0	0.0	0.0
4.6116	20.23473	5.82345	0.00000	0.0	0.0	0.0
5.0728	20.51600	5.45800	0.00000	0.0	0.0	0.0

d - Displacements include imported displacements.

Structure: C | Sub-structure: C2

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
0.45629	36.00978	30.31110	0.00000	0.0	0.0	0.0
0.91259	35.72556	30.67022	0.00000	0.0	0.0	0.0
1.3689	35.44533	31.03033	0.00000	0.0	0.0	0.0
1.8252	35.16511	31.39044	0.00000	0.0	0.0	0.0
2.2815	34.88489	31.75056	0.00000	0.0	0.0	0.0
2.7378	34.60467	32.11067	0.00000	0.0	0.0	0.0
3.1941	34.32444	32.47078	0.00000	0.0	0.0	0.0
3.6504	34.04422	32.83089	0.00000	0.0	0.0	0.0
4.1066	33.76400	33.19100	0.00000	0.0	0.0	0.0

d - Displacements include imported displacements.

Structure: C | Sub-structure: C3

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
0.48792	33.36471	32.21957	0.00000	0.0	0.0	0.0
0.97585	32.96543	32.63014	0.00000	0.0	0.0	0.0
1.4638	32.56614	32.34971	0.00000	0.0	0.0	0.0
1.9517	32.16686	32.06929	0.00000	0.0	0.0	0.0
2.4396	31.76757	31.78886	0.00000	0.0	0.0	0.0
2.9275	31.36829	31.50843	0.00000	0.0	0.0	0.0
3.4155	30.96900	31.22800	0.00000	0.0	0.0	0.0

d - Displacements include imported displacements.

Structure: C | Sub-structure: C4

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
0.48464	29.66840	33.92220	0.00000	0.0	0.0	0.0
0.96928	30.05930	34.21340	0.00000	0.0	0.0	0.0
1.4539	30.44320	34.50460	0.00000	0.0	0.0	0.0
1.9386	30.83060	34.79580	0.00000	0.0	0.0	0.0
2.4232	31.21800	35.08700	0.00000	0.0	0.0	0.0

d - Displacements include imported displacements.

Structure: C | Sub-structure: C5

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
0.48464	29.66840	33.92220	0.00000	0.0	0.0	0.0
0.96928	30.05930	34.21340	0.00000	0.0	0.0	0.0
1.4539	30.44320	34.50460	0.00000	0.0	0.0	0.0
1.9386	30.83060	34.79580	0.00000	0.0	0.0	0.0
2.4232	31.21800	35.08700	0.00000	0.0	0.0	0.0

d - Displacements include imported displacements.



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Structure: C | Sub-structure: C6

Dist.	Coordinates			Displacements	
	x	y	z	x	y
[m]	[m]	[m]	[m]	[mm]	[mm]
0.0	31.21800	35.08700	0.00000	0.0	0.0
0.42208	31.42400	35.45540	0.00000	0.0	0.0
0.84417	31.63000	35.82380	0.00000	0.0	0.0
1.2663	31.83600	36.19220	0.00000	0.0	0.0
1.6883	32.04200	36.56060	0.00000	0.0	0.0
2.1104	32.24800	36.92900	0.00000	0.0	0.0

d - Displacements include imported displacements.

Structure: C | Sub-structure: C7

Dist.	Coordinates			Displacements	
	x	y	z	x	y
[m]	[m]	[m]	[m]	[mm]	[mm]
0.0	32.24800	36.92900	0.00000	0.0	0.0
0.46414	32.62185	37.20408	0.00000	0.0	0.0
0.92829	32.99569	37.47915	0.00000	0.0	0.0
1.3924	33.36954	37.75423	0.00000	0.0	0.0
1.8566	33.74338	38.02931	0.00000	0.0	0.0
2.3207	34.11723	38.30438	0.00000	0.0	0.0
2.7849	34.49108	38.57946	0.00000	0.0	0.0
3.2490	34.86492	38.85454	0.00000	0.0	0.0
3.7131	35.23877	39.12962	0.00000	0.0	0.0
4.1773	35.61262	39.40469	0.00000	0.0	0.0
4.6414	35.98646	39.67977	0.00000	0.0	0.0
5.1056	36.36031	39.95485	0.00000	0.0	0.0
5.5697	36.73415	40.22992	0.00000	0.0	0.0
6.0339	37.10800	40.50500	0.00000	0.0	0.0

d - Displacements include imported displacements.

Structure: C | Sub-structure: C8

Dist.	Coordinates			Displacements	
	x	y	z	x	y
[m]	[m]	[m]	[m]	[mm]	[mm]
0.0	37.10800	40.50500	0.00000	0.0	0.0
0.44342	37.37100	40.14800	0.00000	0.0	0.0

d - Displacements include imported displacements.

Structure: C | Sub-structure: C9

Dist.	Coordinates			Displacements	
	x	y	z	x	y
[m]	[m]	[m]	[m]	[mm]	[mm]
0.0	37.37100	40.14800	0.00000	0.0	0.0
0.49716	37.71400	40.44270	0.00000	0.0	0.0
0.99432	38.11718	40.73740	0.00000	0.0	0.0
1.4915	38.57220	41.03210	0.00000	0.0	0.0
1.9886	38.97250	41.32680	0.00000	0.0	0.0
2.4858	39.37300	41.62150	0.00000	0.0	0.0
2.9830	39.77340	41.91620	0.00000	0.0	0.0
3.4801	40.17380	42.21090	0.00000	0.0	0.0
3.9773	40.57420	42.50560	0.00000	0.0	0.0
4.4744	40.97460	42.80030	0.00000	0.0	0.0
4.9716	41.37500	43.09500	0.00000	0.0	0.0

d - Displacements include imported displacements.

Structure: C | Sub-structure: C10

Dist.	Coordinates			Displacements	
	x	y	z	x	y
[m]	[m]	[m]	[m]	[mm]	[mm]
0.0	41.37500	43.09500	0.00000	0.0	0.0
0.43642	41.63367	42.74350	0.00000	0.0	0.0
0.87284	41.89233	42.39200	0.00000	0.0	0.0
1.3093	42.15100	42.04050	0.00000	0.0	0.0
1.7457	42.40967	41.68900	0.00000	0.0	0.0
2.1821	42.66833	41.33750	0.00000	0.0	0.0
2.6185	42.92700	40.98600	0.00000	0.0	0.0

d - Displacements include imported displacements.

Structure: C | Sub-structure: C11

Dist.	Coordinates			Displacements	
	x	y	z	x	y
[m]	[m]	[m]	[m]	[mm]	[mm]
0.0	42.92700	40.98600	0.00000	0.0	0.0
0.41162	42.59550	40.74200	0.00000	0.0	0.0
0.82323	42.26400	40.49800	0.00000	0.0	0.0

d - Displacements include imported displacements.

Structure: C | Sub-structure: C12

Dist.	Coordinates			Displacements	
	x	y	z	x	y
[m]	[m]	[m]	[m]	[mm]	[mm]
0.0	42.26400	40.49800	0.00000	0.0	0.0
0.49410	42.55680	40.10000	0.00000	0.0	0.0
0.98820	42.84960	39.70200	0.00000	0.0	0.0
1.4823	43.14240	39.30400	0.00000	0.0	0.0
1.9764	43.43520	38.90600	0.00000	0.0	0.0
2.4705	43.72800	38.50800	0.00000	0.0	0.0
2.9646	44.02080	38.11000	0.00000	0.0	0.0
3.4587	44.31360	37.71200	0.00000	0.0	0.0
3.9528	44.60640	37.31400	0.00000	0.0	0.0
4.4469	44.89920	36.91600	0.00000	0.0	0.0
4.9410	45.19200	36.51800	0.00000	0.0	0.0

d - Displacements include imported displacements.

Structure: C | Sub-structure: C12

Dist.	Coordinates			Displacements	
	x	y	z	x	y
[m]	[m]	[m]	[m]	[mm]	[mm]
0.0	45.19200	36.51800	0.00000	0.0	0.0



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Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
0.48113	44.80478	36.23243	0.00000	0.0	0.0	0.0
0.96226	44.41757	35.94687	0.00000	0.0	0.0	0.0
1.4434	44.03035	35.66130	0.00000	0.0	0.0	0.0
1.9245	43.64313	35.37574	0.00000	0.0	0.0	0.0
2.4056	43.25591	35.09017	0.00000	0.0	0.0	0.0
2.8868	42.86870	34.80461	0.00000	0.0	0.0	0.0
3.3679	42.48148	34.51904	0.00000	0.0	0.0	0.0
3.8490	42.09426	34.23348	0.00000	0.0	0.0	0.0
4.3302	41.70704	33.94791	0.00000	0.0	0.0	0.0
4.8113	41.31983	33.66235	0.00000	0.0	0.0	0.0
5.2924	40.93261	33.37678	0.00000	0.0	0.0	0.0
5.7735	40.54539	33.09122	0.00000	0.0	0.0	0.0
6.2547	40.15817	32.80565	0.00000	0.0	0.0	0.0
6.7358	39.77096	32.52009	0.00000	0.0	0.0	0.0
7.2169	39.38374	32.23452	0.00000	0.0	0.0	0.0
7.6981	38.99652	31.94896	0.00000	0.0	0.0	0.0
8.1792	38.60930	31.66339	0.00000	0.0	0.0	0.0
8.6603	38.22209	31.37783	0.00000	0.0	0.0	0.0
9.1414	37.83487	31.09226	0.00000	0.0	0.0	0.0
9.6226	37.44765	30.80670	0.00000	0.0	0.0	0.0
10.104	37.06043	30.52113	0.00000	0.0	0.0	0.0
10.585	36.67322	30.23557	0.00000	0.0	0.0	0.0
11.066	36.28600	29.95000	0.00000	0.0	0.0	0.0

d - Displacements include imported displacements.

Structure: D | Sub-structure: D1

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	27.55900	34.85000	0.00000	0.0	0.0	0.0
0.48439	27.27278	35.24078	0.00000	0.0	0.0	0.0
0.96877	26.98656	35.63156	0.00000	0.0	0.0	0.0
1.4532	26.70033	36.02233	0.00000	0.0	0.0	0.0
1.9375	26.41411	36.41311	0.00000	0.0	0.0	0.0
2.4219	26.12789	36.80389	0.00000	0.0	0.0	0.0
2.9063	25.84167	37.19467	0.00000	0.0	0.0	0.0
3.3907	25.55544	37.58544	0.00000	0.0	0.0	0.0
3.8751	25.26922	37.97622	0.00000	0.0	0.0	0.0
4.3595	24.98300	38.36700	0.00000	0.0	0.0	0.0

d - Displacements include imported displacements.

Structure: D | Sub-structure: D2

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	24.98300	38.36700	0.00000	0.0	0.0	0.0
0.49046	24.58738	38.07712	0.00000	0.0	0.0	0.0
0.98091	24.19175	37.78725	0.00000	0.0	0.0	0.0
1.4714	23.79613	37.49737	0.00000	0.0	0.0	0.0
1.9618	23.40050	37.20750	0.00000	0.0	0.0	0.0
2.4523	23.00488	36.91763	0.00000	0.0	0.0	0.0
2.9427	22.60925	36.62775	0.00000	0.0	0.0	0.0
3.4332	22.21363	36.33788	0.00000	0.0	0.0	0.0
3.9236	21.81800	36.04800	0.00000	0.0	0.0	0.0

d - Displacements include imported displacements.

Structure: D | Sub-structure: D3

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	21.81800	36.04800	0.00000	0.0	0.0	0.0
0.47627	21.54300	36.43686	0.00000	0.0	0.0	0.0
0.95254	21.26800	36.82571	0.00000	0.0	0.0	0.0
1.4288	20.99300	37.21456	0.00000	0.0	0.0	0.0
1.9051	20.71800	37.60343	0.00000	0.0	0.0	0.0
2.3814	20.44300	37.99229	0.00000	0.0	0.0	0.0
2.8576	20.16800	38.38114	0.00000	0.0	0.0	0.0
3.3339	19.89300	38.77000	0.00000	0.0	0.0	0.0

d - Displacements include imported displacements.

Structure: D | Sub-structure: D4

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	19.89300	38.77000	0.00000	0.0	0.0	0.0
0.48525	20.28585	39.05485	0.00000	0.0	0.0	0.0
0.97050	20.67870	39.33970	0.00000	0.0	0.0	0.0
1.4558	21.07155	39.62455	0.00000	0.0	0.0	0.0
1.9410	21.46439	39.90939	0.00000	0.0	0.0	0.0
2.4263	21.85724	40.19424	0.00000	0.0	0.0	0.0
2.9115	22.25009	40.47909	0.00000	0.0	0.0	0.0
3.3968	22.64294	40.76394	0.00000	0.0	0.0	0.0
3.8820	23.03579	41.04879	0.00000	0.0	0.0	0.0
4.3673	23.42864	41.33364	0.00000	0.0	0.0	0.0
4.8525	23.82148	41.61848	0.00000	0.0	0.0	0.0
5.3378	24.21433	41.90333	0.00000	0.0	0.0	0.0
5.8230	24.60718	42.18818	0.00000	0.0	0.0	0.0
6.3083	25.00003	42.47303	0.00000	0.0	0.0	0.0
6.7935	25.39288	42.75788	0.00000	0.0	0.0	0.0
7.2788	25.78573	43.04273	0.00000	0.0	0.0	0.0
7.7640	26.17858	43.32758	0.00000	0.0	0.0	0.0
8.2493	26.57142	43.61242	0.00000	0.0	0.0	0.0
8.7345	26.96427	43.89727	0.00000	0.0	0.0	0.0
9.2198	27.35712	44.18212	0.00000	0.0	0.0	0.0
9.7050	27.74997	44.46697	0.00000	0.0	0.0	0.0
10.190	28.14282	44.75182	0.00000	0.0	0.0	0.0
10.676	28.53567	45.03667	0.00000	0.0	0.0	0.0
11.161	28.92852	45.32152	0.00000	0.0	0.0	0.0
11.646	29.32136	45.60636	0.00000	0.0	0.0	0.0
12.131	29.71421	45.89121	0.00000	0.0	0.0	0.0
12.617	30.10706	46.17606	0.00000	0.0	0.0	0.0
13.102	30.49991	46.46091	0.00000	0.0	0.0	0.0
13.587	30.89276	46.74576	0.00000	0.0	0.0	0.0
14.072	31.28561	47.03061	0.00000	0.0	0.0	0.0
14.558	31.67845	47.31545	0.00000	0.0	0.0	0.0
15.043	32.07130	47.60030	0.00000	0.0	0.0	0.0
15.528	32.46415	47.88515	0.00000	0.0	0.0	0.0
16.013	32.85700	48.17000	0.00000	0.0	0.0	0.0

d - Displacements include imported displacements.

Structure: D | Sub-structure: D5

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]



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Structure: D | Sub-structure: D6

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
0.0	32.85700	48.17000	0.00000	0.0	0.0	0.0
0.44175	33.11971	47.81486	0.00000	0.0	0.0	0.0
0.88350	33.38243	47.45971	0.00000	0.0	0.0	0.0
1.3253	33.64514	47.10457	0.00000	0.0	0.0	0.0
1.7670	33.90786	46.74943	0.00000	0.0	0.0	0.0
2.2088	34.17057	46.39429	0.00000	0.0	0.0	0.0
2.6505	34.43329	46.03914	0.00000	0.0	0.0	0.0
3.0923	34.69600	45.68400	0.00000	0.0	0.0	0.0

d - Displacements include imported displacements.

Structure: D | Sub-structure: D7

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
0.0	34.69600	45.68400	0.00000	0.0	0.0	0.0
0.38681	34.38500	45.45400	0.00000	0.0	0.0	0.0
0.77362	34.07400	45.22400	0.00000	0.0	0.0	0.0
1.1604	33.76300	44.99400	0.00000	0.0	0.0	0.0

d - Displacements include imported displacements.

Structure: D | Sub-structure: D8

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
0.0	33.76300	44.99400	0.00000	0.0	0.0	0.0
0.45636	34.03370	44.62660	0.00000	0.0	0.0	0.0
0.91271	34.30440	44.25920	0.00000	0.0	0.0	0.0
1.3691	34.57510	43.89180	0.00000	0.0	0.0	0.0
1.8254	34.84580	43.52440	0.00000	0.0	0.0	0.0
2.2818	35.11650	43.15700	0.00000	0.0	0.0	0.0
2.7381	35.38720	42.78960	0.00000	0.0	0.0	0.0
3.1945	35.65790	42.42220	0.00000	0.0	0.0	0.0
3.6509	35.92860	42.05480	0.00000	0.0	0.0	0.0
4.1072	36.19930	41.68740	0.00000	0.0	0.0	0.0
4.5636	36.47000	41.32000	0.00000	0.0	0.0	0.0

d - Displacements include imported displacements.

Structure: A | Sub-structure: A1

Dist.	Coordinates			z	Displacements	
	x	y	z		z	z
0.0	29.57700	22.24700	0.00000	-0.11176	d	
0.47829	29.95067	22.54556	0.00000	-0.12976	d	
0.95658	30.32433	22.84411	0.00000	-0.15020	d	
1.4349	30.69800	23.14267	0.00000	-0.17349	d	
1.9132	31.07167	23.44122	0.00000	-0.20010	d	
2.3915	31.44533	23.73978	0.00000	-0.23065	d	
2.8697	31.81900	24.03833	0.00000	-0.26587	d	
3.3480	32.19267	24.33689	0.00000	-0.30670	d	
3.8263	32.56633	24.63544	0.00000	-0.35344	d	
4.3046	32.94000	24.93400	0.00000	-0.41032	d	

d - Displacements include imported displacements.

Specific Building Damage Results - Vertical Displacements

Structure: A | Sub-structure: A2

Dist.	Coordinates			z	Displacements	
	x	y	z		z	z
0.0	32.94000	24.93400	0.00000	-0.41032	d	
0.41896	33.20150	24.60667	0.00000	-0.43014	d	
0.83792	33.46300	24.27933	0.00000	-0.44852	d	
1.25689	33.72450	23.95200	0.00000	-0.46613	d	
1.6758	33.98600	23.62467	0.00000	-0.47964	d	
2.0948	34.24750	23.29733	0.00000	-0.49183	d	
2.5138	34.50900	22.97000	0.00000	-0.50147	d	

d - Displacements include imported displacements.

Structure: A | Sub-structure: A3

Dist.	Coordinates			z	Displacements	
	x	y	z		z	z
0.0	34.50900	22.97000	0.00000	-0.50147	d	
0.47280	34.87837	23.26512	0.00000	-0.58934	d	
0.94559	35.24775	23.56025	0.00000	-0.69691	d	
1.4184	35.61713	23.85537	0.00000	-0.83073	d	
1.8912	35.98650	24.15050	0.00000	-1.0004	d	
2.3640	36.35587	24.44563	0.00000	-1.2207	d	
2.8368	36.72525	24.74075	0.00000	-1.5155	d	
3.3096	37.09463	25.03588	0.00000	-1.9328	d	
3.7824	37.46400	25.33100	0.00000	-2.5649	d	



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Dist. Coordinates Displacements
 x y z z
 [m] [m] [m] [mm]

d - Displacements include imported displacements.

Structure: A | Sub-structure: A4

Dist. Coordinates Displacements
 x y z z
 [m] [m] [m] [mm]

Vertical Offset 1

0.0 37.46400 25.33100 0.00000 -2.5649 d
 0.48725 37.75238 24.93825 0.00000 -2.5901 d
 0.97450 38.04075 24.54550 0.00000 -2.5938 d
 1.4618 38.32912 24.15275 0.00000 -2.5762 d
 1.9490 38.61750 23.76000 0.00000 -2.5369 d
 2.4363 38.90588 23.36725 0.00000 -2.4744 d
 2.9235 39.19425 22.97450 0.00000 -2.3853 d
 3.4108 39.48262 22.58175 0.00000 -2.2644 d
 3.8980 39.77100 22.18900 0.00000 -2.1043 d
 d - Displacements include imported displacements.

Structure: A | Sub-structure: A5

Dist. Coordinates Displacements
 x y z z
 [m] [m] [m] [mm]

Vertical Offset 1

0.0 39.77100 22.18900 0.00000 -2.1043 d
 0.49935 39.37894 21.87975 0.00000 -1.5639 d
 0.99870 38.98687 21.57050 0.00000 -1.2215 d
 1.4980 38.59481 21.26125 0.00000 -0.98290 d
 1.9974 38.20275 20.95200 0.00000 -0.80657 d
 2.4967 37.81069 20.64275 0.00000 -0.67099 d
 2.9961 37.41862 20.33350 0.00000 -0.56376 d
 3.4954 37.02656 20.02425 0.00000 -0.47716 d
 3.9948 36.63450 19.71500 0.00000 -0.40608 d
 4.4941 36.24244 19.40575 0.00000 -0.34697 d
 4.9935 35.85038 19.09650 0.00000 -0.29732 d
 5.4928 35.45831 18.78725 0.00000 -0.25522 d
 5.9922 35.06625 18.47800 0.00000 -0.21929 d
 6.4915 34.67419 18.16875 0.00000 -0.18841 d
 6.9909 34.28213 17.85950 0.00000 -0.16174 d
 7.4902 33.89006 17.55025 0.00000 -0.13860 d
 7.9896 33.49800 17.24100 0.00000 -0.11844 d
 d - Displacements include imported displacements.

Structure: A | Sub-structure: A6

Dist. Coordinates Displacements
 x y z z
 [m] [m] [m] [mm]

Vertical Offset 1

0.0 33.49800 17.24100 0.00000 -0.11844 d
 0.48914 33.19638 17.62608 0.00000 -0.12193 d
 0.97828 32.89477 18.01115 0.00000 -0.12481 d
 1.4674 32.59315 18.39623 0.00000 -0.12706 d
 1.9566 32.29154 18.78131 0.00000 -0.12862 d
 2.4457 31.98992 19.16638 0.00000 -0.12948 d
 2.9349 31.68831 19.55146 0.00000 -0.12962 d
 3.4240 31.38669 19.93654 0.00000 -0.12904 d
 3.9131 31.08508 20.32162 0.00000 -0.12774 d
 4.4022 30.78346 20.70669 0.00000 -0.12576 d
 4.8914 30.48185 21.09177 0.00000 -0.12312 d
 5.3805 30.18023 21.47685 0.00000 -0.11987 d
 5.8697 29.87862 21.86192 0.00000 -0.11606 d
 6.3588 29.57700 22.24700 0.00000 -0.11176 d
 d - Displacements include imported displacements.

Structure: B | Sub-structure: B1

Dist. Coordinates Displacements
 x y z z
 [m] [m] [m] [mm]

Vertical Offset 1

0.0 20.51600 5.45800 0.00000 0.026413 d
 0.48720 20.90600 5.75000 0.00000 0.026468 d
 0.97440 21.29600 6.04200 0.00000 0.026482 d
 1.4616 21.68600 6.33400 0.00000 0.026449 d
 1.9488 22.07600 6.62600 0.00000 0.026364 d
 2.4360 22.46600 6.91800 0.00000 0.026222 d
 2.9232 22.85600 7.21000 0.00000 0.026015 d
 3.4104 23.24600 7.50200 0.00000 0.025737 d
 3.8976 23.63600 7.79400 0.00000 0.025379 d
 d - Displacements include imported displacements.

Structure: B | Sub-structure: B2

Dist. Coordinates Displacements
 x y z z
 [m] [m] [m] [mm]

Vertical Offset 1

0.0 23.63600 7.79400 0.00000 0.025379 d
 0.46125 23.35400 8.15900 0.00000 0.025318 d
 0.92249 23.07200 8.52400 0.00000 0.025262 d
 d - Displacements include imported displacements.

Structure: B | Sub-structure: B3

Dist. Coordinates Displacements
 x y z z
 [m] [m] [m] [mm]

Vertical Offset 1

0.0 23.07200 8.52400 0.00000 0.025262 d
 0.46917 23.44545 8.80800 0.00000 0.024807 d
 0.93835 23.81891 9.09200 0.00000 0.024258 d
 1.4075 24.19236 9.37600 0.00000 0.023605 d
 1.8767 24.56582 9.66000 0.00000 0.022838 d
 2.3459 24.93927 9.94400 0.00000 0.021943 d
 2.8150 25.31273 10.22800 0.00000 0.020909 d
 3.2842 25.68618 10.51200 0.00000 0.019720 d
 3.7534 26.05964 10.79600 0.00000 0.018361 d
 4.2226 26.43309 11.08000 0.00000 0.016812 d
 4.6917 26.80655 11.36400 0.00000 0.015055 d
 5.1609 27.18000 11.64800 0.00000 0.013066 d
 d - Displacements include imported displacements.

Structure: B | Sub-structure: B4

Dist. Coordinates Displacements
 x y z z
 [m] [m] [m] [mm]

Vertical Offset 1

0.0 27.18000 11.64800 0.00000 0.013066 d
 0.36061 27.39833 11.36100 0.00000 0.013346 d
 0.72122 27.61667 11.07400 0.00000 0.013648 d
 1.0818 27.83500 10.78700 0.00000 0.013969 d
 d - Displacements include imported displacements.



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Dist.	Coordinates			Displacements	
	x	y	z	z	
[m]	[m]	[m]	[m]	[mm]	

Structure: B | Sub-structure: B5

Dist.	Coordinates			Displacements	
	x	y	z	z	
[m]	[m]	[m]	[m]	[mm]	

Vertical Offset 1

```

0.0 27.83500 10.78700 0.00000 0.013969 d
0.48959 28.22792 11.07908 0.00000 0.011770 d
0.97918 28.42085 11.37115 0.00000 0.0092819 d
1.4688 29.01377 11.66323 0.00000 0.0064750 d
1.9584 29.40669 11.95531 0.00000 0.0033136 d
2.4479 29.79962 12.24738 0.00000 -242.058-6 d
2.9375 30.19254 12.53946 0.00000 -0.0042365 d
3.4271 30.58546 12.83154 0.00000 -0.0087198 d
3.9167 30.97838 13.12362 0.00000 -0.013749 d
4.4063 31.37131 13.41569 0.00000 -0.019387 d
4.8959 31.76423 13.70777 0.00000 -0.025708 d
5.3855 32.15715 13.99985 0.00000 -0.032294 d
5.8751 32.55008 14.29192 0.00000 -0.040739 d
6.3647 32.94300 14.58400 0.00000 -0.049651 d
d - Displacements include imported displacements.

```

Structure: B | Sub-structure: B6

Dist.	Coordinates			Displacements	
	x	y	z	z	
[m]	[m]	[m]	[m]	[mm]	

Vertical Offset 1

```

0.0 32.94300 14.58400 0.00000 -0.049651 d
0.35614 32.73033 14.86967 0.00000 -0.051783 d
0.71227 32.51767 15.15533 0.00000 -0.053823 d
1.0684 32.30500 15.44100 0.00000 -0.055753 d
d - Displacements include imported displacements.

```

Structure: B | Sub-structure: B7

Dist.	Coordinates			Displacements	
	x	y	z	z	
[m]	[m]	[m]	[m]	[mm]	

Vertical Offset 1

```

0.0 32.30500 15.44100 0.00000 -0.055753 d
0.36690 32.60133 15.65733 0.00000 -0.063848 d
0.73379 32.89767 15.87367 0.00000 -0.072699 d
1.1007 33.19400 16.09000 0.00000 -0.082391 d
d - Displacements include imported displacements.

```

Structure: B | Sub-structure: B8

Dist.	Coordinates			Displacements	
	x	y	z	z	
[m]	[m]	[m]	[m]	[mm]	

Vertical Offset 1

```

0.0 33.19400 16.09000 0.00000 -0.082391 d
0.48246 32.90414 16.47568 0.00000 -0.085736 d
0.96493 32.61427 16.86136 0.00000 -0.088736 d
1.4474 32.32441 17.24705 0.00000 -0.091340 d
1.9299 32.03455 17.63273 0.00000 -0.093512 d
2.4123 31.74468 18.01841 0.00000 -0.095220 d
2.8948 31.45482 18.40409 0.00000 -0.096438 d
3.3772 31.16495 18.78977 0.00000 -0.097149 d
3.8597 30.87509 19.17545 0.00000 -0.097341 d
4.3422 30.58523 19.56114 0.00000 -0.097011 d
4.8246 30.29536 19.94682 0.00000 -0.096164 d
5.3071 30.00550 20.33250 0.00000 -0.094814 d
5.7896 29.71564 20.71818 0.00000 -0.092980 d
6.2720 29.42577 21.10386 0.00000 -0.090690 d
6.7545 29.13591 21.48955 0.00000 -0.087977 d
7.2370 28.84605 21.87523 0.00000 -0.084880 d
7.7194 28.55618 22.26091 0.00000 -0.081440 d
8.2019 28.26632 22.64659 0.00000 -0.077704 d
8.6843 27.97645 23.03227 0.00000 -0.073719 d
9.1668 27.68659 23.41795 0.00000 -0.069532 d
9.6493 27.39673 23.80364 0.00000 -0.065190 d
10.132 27.10686 24.18932 0.00000 -0.060780 d
10.614 26.81700 24.57500 0.00000 -0.056224 d
d - Displacements include imported displacements.

```

Structure: B | Sub-structure: B9

Dist.	Coordinates			Displacements	
	x	y	z	z	
[m]	[m]	[m]	[m]	[mm]	

Vertical Offset 1

```

0.0 26.81700 24.57500 0.00000 -0.056224 d
0.43274 26.47567 24.30900 0.00000 -0.048115 d
0.86548 26.13433 24.04300 0.00000 -0.040725 d
1.2982 25.79300 23.77700 0.00000 -0.033993 d
1.7310 25.45167 23.51100 0.00000 -0.027863 d
2.1637 25.11033 23.24500 0.00000 -0.022283 d
2.5964 24.76900 22.97900 0.00000 -0.017204 d
d - Displacements include imported displacements.

```

Structure: B | Sub-structure: B10

Dist.	Coordinates			Displacements	
	x	y	z	z	
[m]	[m]	[m]	[m]	[mm]	

Vertical Offset 1

```

0.0 24.76900 22.97900 0.00000 -0.017204 d
0.43530 25.02950 22.63025 0.00000 -0.019127 d
0.87060 25.29000 22.28150 0.00000 -0.021012 d
1.3059 25.55050 21.93275 0.00000 -0.022837 d
1.7412 25.81100 21.58400 0.00000 -0.024589 d
d - Displacements include imported displacements.

```

Structure: B | Sub-structure: B11

Dist.	Coordinates			Displacements	
	x	y	z	z	
[m]	[m]	[m]	[m]	[mm]	

Vertical Offset 1

```

0.0 25.81100 21.58400 0.00000 -0.024589 d
0.47915 25.43280 21.28980 0.00000 -0.018554 d
0.95831 25.05460 20.99560 0.00000 -0.013149 d
1.4375 24.67640 20.70140 0.00000 -0.0083121 d
1.9166 24.29820 20.40720 0.00000 -0.003952 d
2.3958 23.92000 20.11300 0.00000 -117.37E-6 d
d - Displacements include imported displacements.

```

Structure: B | Sub-structure: B12

Dist.	Coordinates			Displacements	
	x	y	z	z	



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[m] [m] [m] [m] [mm]

Vertical Offset 1
 0.0 23.92000 20.11300 0.00000 -117.37E-6 d
 0.47317 24.21050 19.73950 0.00000 -0.0010863 d
 0.94635 24.50100 19.36500 0.00000 -0.0019970 d
 d - Displacements include imported displacements.

Structure: B | Sub-structure: B13

Dist.	Coordinates			Displacements
	x	y	z	z
[m]	[m]	[m]	[m]	[mm]

Vertical Offset 1
 0.0 24.50100 19.36500 0.00000 -0.0019970 d
 0.45943 24.13650 19.08633 0.00000 0.0015609 d
 0.91886 23.77200 18.80667 0.00000 0.0047445 d
 1.3783 23.40750 18.52700 0.00000 0.0075908 d
 1.8377 23.04300 18.24733 0.00000 0.0101332 d
 2.2971 22.67850 17.96767 0.00000 0.0122397 d
 2.7566 22.31400 17.68800 0.00000 0.014412 d
 d - Displacements include imported displacements.

Structure: B | Sub-structure: B14

Dist.	Coordinates			Displacements
	x	y	z	z
[m]	[m]	[m]	[m]	[mm]

Vertical Offset 1
 0.0 22.31400 17.68800 0.00000 0.014412 d
 0.44350 22.04420 18.04000 0.00000 0.014779 d
 0.88701 21.77440 18.39200 0.00000 0.015172 d
 1.3305 21.50460 18.74400 0.00000 0.015588 d
 1.7740 21.23480 19.09600 0.00000 0.016023 d
 2.2175 20.96500 19.44800 0.00000 0.016475 d
 d - Displacements include imported displacements.

Structure: B | Sub-structure: B15

Dist.	Coordinates			Displacements
	x	y	z	z
[m]	[m]	[m]	[m]	[mm]

Vertical Offset 1
 0.0 20.96500 19.44800 0.00000 0.016475 d
 0.49138 20.57211 19.15289 0.00000 0.018100 d
 0.98276 20.17922 18.85778 0.00000 0.019524 d
 1.4741 19.78633 18.56267 0.00000 0.020766 d
 1.9655 19.39344 18.26756 0.00000 0.021845 d
 2.4569 19.00056 17.97244 0.00000 0.022777 d
 2.9483 18.60767 17.67733 0.00000 0.023574 d
 3.4396 18.21478 17.38222 0.00000 0.024250 d
 3.9310 17.82189 17.08711 0.00000 0.024817 d
 4.4224 17.42900 16.79200 0.00000 0.025284 d
 d - Displacements include imported displacements.

Structure: B | Sub-structure: B16

Dist.	Coordinates			Displacements
	x	y	z	z
[m]	[m]	[m]	[m]	[mm]

Vertical Offset 1
 0.0 17.42900 16.79200 0.00000 0.025284 d
 0.49346 17.71689 16.39122 0.00000 0.025192 d
 0.98692 18.00478 15.99044 0.00000 0.025104 d
 1.4804 18.29267 15.58967 0.00000 0.025022 d
 1.9738 18.58056 15.18889 0.00000 0.024946 d
 2.4673 18.86844 14.78811 0.00000 0.024878 d
 2.9608 19.15633 14.38733 0.00000 0.024818 d
 3.4542 19.44422 13.98656 0.00000 0.024767 d
 3.9477 19.73211 13.58578 0.00000 0.024726 d
 4.4411 20.02000 13.18500 0.00000 0.024694 d
 d - Displacements include imported displacements.

Structure: B | Sub-structure: B17

Dist.	Coordinates			Displacements
	x	y	z	z
[m]	[m]	[m]	[m]	[mm]

Vertical Offset 1
 0.0 20.02000 13.18500 0.00000 0.024694 d
 0.48838 19.64200 12.87575 0.00000 0.025187 d
 0.97677 19.26400 12.56650 0.00000 0.025585 d
 1.4652 18.88600 12.25725 0.00000 0.025899 d
 1.9535 18.50800 11.94800 0.00000 0.026136 d
 d - Displacements include imported displacements.

Structure: B | Sub-structure: B18

Dist.	Coordinates			Displacements
	x	y	z	z
[m]	[m]	[m]	[m]	[mm]

Vertical Offset 1
 0.0 18.50800 11.94800 0.00000 0.026136 d
 0.43983 18.77567 11.59900 0.00000 0.026124 d
 0.87965 19.04333 11.25000 0.00000 0.026115 d
 1.3195 19.31100 10.90100 0.00000 0.026108 d
 d - Displacements include imported displacements.

Structure: B | Sub-structure: B19

Dist.	Coordinates			Displacements
	x	y	z	z
[m]	[m]	[m]	[m]	[mm]

Vertical Offset 1
 0.0 19.31100 10.90100 0.00000 0.026108 d
 0.47300 18.93320 10.61640 0.00000 0.026282 d
 0.94600 18.55540 10.33180 0.00000 0.026396 d
 1.4190 18.17760 10.04720 0.00000 0.026457 d
 1.8920 17.79980 9.76260 0.00000 0.026469 d
 2.3650 17.42200 9.47800 0.00000 0.026439 d
 d - Displacements include imported displacements.

Structure: B | Sub-structure: B20

Dist.	Coordinates			Displacements
	x	y	z	z
[m]	[m]	[m]	[m]	[mm]

Vertical Offset 1
 0.0 17.42200 9.47800 0.00000 0.026439 d
 0.46116 17.70327 9.11255 0.00000 0.026440 d
 0.92233 17.98455 8.74709 0.00000 0.026440 d
 1.3835 18.26582 8.38164 0.00000 0.026440 d
 1.8447 18.54709 8.01618 0.00000 0.026439 d



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Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
2.3058	18.82836	7.65073	0.00000	0.026438 d
2.7670	19.10964	7.28527	0.00000	0.026436 d
3.2281	19.39091	6.91982	0.00000	0.026433 d
3.6893	19.67218	6.55436	0.00000	0.026430 d
4.1505	19.95345	6.18891	0.00000	0.026425 d
4.6116	20.23473	5.82345	0.00000	0.026419 d
5.0728	20.51600	5.45800	0.00000	0.026413 d

d - Displacements include imported displacements.

Structure: C | Sub-structure: C1

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	36.28600	29.95000	0.00000	-1.4369 d
0.45629	36.00578	30.31011	0.00000	-1.1730 d
0.91259	35.72556	30.67022	0.00000	-0.97764 d
1.3689	35.44533	31.03033	0.00000	-0.82669 d
1.8252	35.16511	31.39044	0.00000	-0.70645 d
2.2815	34.88489	31.75056	0.00000	-0.60847 d
2.7378	34.60467	32.11067	0.00000	-0.52722 d
3.1941	34.32444	32.47078	0.00000	-0.45892 d
3.6504	34.04422	32.83089	0.00000	-0.40084 d
4.1066	33.76400	33.19100	0.00000	-0.35102 d

d - Displacements include imported displacements.

Structure: C | Sub-structure: C2

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	33.76400	33.19100	0.00000	-0.35102 d
0.48792	33.36471	32.91057	0.00000	-0.33089 d
0.97585	32.96543	32.63014	0.00000	-0.31029 d
1.4638	32.56614	32.34971	0.00000	-0.28945 d
1.9517	32.16686	32.06929	0.00000	-0.26865 d
2.4396	31.76757	31.78886	0.00000	-0.24813 d
2.9275	31.36829	31.50843	0.00000	-0.22811 d
3.4155	30.96900	31.22800	0.00000	-0.20875 d

d - Displacements include imported displacements.

Structure: C | Sub-structure: C3

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	30.96900	31.22800	0.00000	-0.20875 d
0.48944	30.56977	31.62850	0.00000	-0.18496 d
0.97897	30.17054	32.02900	0.00000	-0.16354 d
1.4683	30.12500	32.42950	0.00000	-0.14425 d
1.9577	29.84367	32.83000	0.00000	-0.12686 d
2.4472	29.56233	33.23050	0.00000	-0.11117 d
2.9366	29.28100	33.63100	0.00000	-0.097018 d

d - Displacements include imported displacements.

Structure: C | Sub-structure: C4

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	29.28100	33.63100	0.00000	-0.097018 d
0.48464	28.88177	33.93220	0.00000	-0.10466 d
0.96928	30.05580	34.21340	0.00000	-0.11234 d
1.4539	30.44320	34.50460	0.00000	-0.11999 d
1.9386	30.83060	34.79580	0.00000	-0.12752 d
2.4232	31.21800	35.08700	0.00000	-0.13489 d

d - Displacements include imported displacements.

Structure: C | Sub-structure: C5

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	31.21800	35.08700	0.00000	-0.13489 d
0.42208	31.42400	35.45540	0.00000	-0.13377 d
0.84417	31.63000	35.82380	0.00000	-0.13220 d
1.2663	31.83600	36.19220	0.00000	-0.13022 d
1.6883	32.04200	36.56060	0.00000	-0.12784 d
2.1104	32.24800	36.92900	0.00000	-0.12509 d

d - Displacements include imported displacements.

Structure: C | Sub-structure: C6

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	32.24800	36.92900	0.00000	-0.12509 d
0.46414	32.62185	37.20408	0.00000	-0.12931 d
0.92829	32.99569	37.47915	0.00000	-0.13315 d
1.3924	33.36954	37.75423	0.00000	-0.13656 d
1.8566	33.74338	38.02931	0.00000	-0.13951 d
2.3207	34.11723	38.30439	0.00000	-0.14197 d
2.7849	34.49108	38.57946	0.00000	-0.14393 d
3.2490	34.86492	38.85454	0.00000	-0.14536 d
3.7131	35.23877	39.12962	0.00000	-0.14625 d
4.1773	35.61262	39.40469	0.00000	-0.14659 d
4.6414	35.98646	39.67977	0.00000	-0.14638 d
5.1056	36.36031	39.95485	0.00000	-0.14562 d
5.5697	36.73415	40.22992	0.00000	-0.14432 d
6.0339	37.10800	40.50500	0.00000	-0.14248 d

d - Displacements include imported displacements.

Structure: C | Sub-structure: C7

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	37.10800	40.50500	0.00000	-0.14248 d
0.44342	37.37100	40.14800	0.00000	-0.16265 d

d - Displacements include imported displacements.

Structure: C | Sub-structure: C8

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
4.6414	35.98646	39.67977	0.00000	-0.14638 d



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Dist. Coordinates Displacements
 [m] x [m] y [m] z [mm]

Vertical Offset 1
 0.0 37.37100 40.14800 0.00000 -0.16265 d
 0.49716 37.77140 40.44270 0.00000 -0.15972 d
 0.99432 38.17180 40.73740 0.00000 -0.15617 d
 1.4915 38.57220 41.03210 0.00000 -0.15201 d
 1.9886 38.97260 41.32680 0.00000 -0.14729 d
 2.4858 39.37300 41.62150 0.00000 -0.14204 d
 2.9830 39.77340 41.91620 0.00000 -0.13634 d
 3.4801 40.17380 42.21090 0.00000 -0.13024 d
 3.9773 40.57420 42.50560 0.00000 -0.12381 d
 4.4744 40.97460 42.80030 0.00000 -0.11710 d
 4.9716 41.37500 43.09500 0.00000 -0.11020 d
 d - Displacements include imported displacements.

Structure: C | Sub-structure: C9
 Dist. Coordinates Displacements
 [m] x [m] y [m] z [mm]

Vertical Offset 1
 0.0 41.37500 43.09500 0.00000 -0.11020 d
 0.43642 41.63367 42.74350 0.00000 -0.12511 d
 0.87284 41.89233 42.39200 0.00000 -0.14167 d
 1.3093 42.15100 42.04050 0.00000 -0.16006 d
 1.7457 42.40967 41.68900 0.00000 -0.18054 d
 2.1821 42.66833 41.33750 0.00000 -0.20340 d
 2.6185 42.92700 40.98600 0.00000 -0.22898 d
 d - Displacements include imported displacements.

Structure: C | Sub-structure: C10
 Dist. Coordinates Displacements
 [m] x [m] y [m] z [mm]

Vertical Offset 1
 0.0 42.92700 40.98600 0.00000 -0.22898 d
 0.41162 42.59550 40.74200 0.00000 -0.24188 d
 0.82323 42.26400 40.49800 0.00000 -0.25461 d
 d - Displacements include imported displacements.

Structure: C | Sub-structure: C11
 Dist. Coordinates Displacements
 [m] x [m] y [m] z [mm]

Vertical Offset 1
 0.0 42.26400 40.49800 0.00000 -0.25461 d
 0.49410 42.55680 40.10000 0.00000 -0.29207 d
 0.98820 42.84960 39.70200 0.00000 -0.33536 d
 1.4823 43.14240 39.30400 0.00000 -0.38575 d
 1.9764 43.43520 38.90600 0.00000 -0.44490 d
 2.4705 43.72800 38.50800 0.00000 -0.51507 d
 2.9646 44.02080 38.11000 0.00000 -0.59338 d
 3.4587 44.31360 37.71200 0.00000 -0.70242 d
 3.9528 44.60640 37.31400 0.00000 -0.83113 d
 4.4469 44.89920 36.91600 0.00000 -0.99692 d
 4.9410 45.19200 36.51800 0.00000 -1.2203 d
 d - Displacements include imported displacements.

Structure: C | Sub-structure: C12
 Dist. Coordinates Displacements
 [m] x [m] y [m] z [mm]

Vertical Offset 1
 0.0 45.19200 36.51800 0.00000 -1.2203 d
 0.48113 44.80478 36.23243 0.00000 -1.3614 d
 0.96226 44.41757 35.94687 0.00000 -1.4879 d
 1.4434 44.03035 35.66130 0.00000 -1.5960 d
 1.9245 43.64313 35.37574 0.00000 -1.6858 d
 2.4056 43.25591 35.09017 0.00000 -1.7595 d
 2.8868 42.86870 34.80461 0.00000 -1.8190 d
 3.3679 42.48148 34.51904 0.00000 -1.8663 d
 3.8490 42.09426 34.23348 0.00000 -1.9030 d
 4.3302 41.70704 33.94791 0.00000 -1.9303 d
 4.8113 41.31983 33.66235 0.00000 -1.9491 d
 5.2924 40.93261 33.37678 0.00000 -1.9601 d
 5.7735 40.54539 33.09122 0.00000 -1.9636 d
 6.2547 40.15817 32.80565 0.00000 -1.9600 d
 6.7358 39.77096 32.52009 0.00000 -1.9492 d
 7.2169 39.38374 32.23452 0.00000 -1.9312 d
 7.6981 38.99652 31.94896 0.00000 -1.9055 d
 8.1792 38.60930 31.66339 0.00000 -1.8716 d
 8.6603 38.22209 31.37783 0.00000 -1.8288 d
 9.1414 37.83487 31.09226 0.00000 -1.7760 d
 9.6226 37.44765 30.80670 0.00000 -1.7119 d
 10.1037 37.06043 30.52113 0.00000 -1.6350 d
 10.585 36.67322 30.23557 0.00000 -1.5438 d
 11.066 36.28600 29.95000 0.00000 -1.4369 d
 d - Displacements include imported displacements.

Structure: D | Sub-structure: D1
 Dist. Coordinates Displacements
 [m] x [m] y [m] z [mm]

Vertical Offset 1
 0.0 27.55900 34.85000 0.00000 -0.045444 d
 0.48439 27.27278 35.24078 0.00000 -0.037778 d
 0.96877 26.98656 35.63156 0.00000 -0.030820 d
 1.4532 26.70033 36.02233 0.00000 -0.024535 d
 1.9375 26.41411 36.41311 0.00000 -0.018833 d
 2.4219 26.12789 36.80389 0.00000 -0.013672 d
 2.9063 25.84167 37.19467 0.00000 -0.0090047 d
 3.3907 25.55544 37.58544 0.00000 -0.0047869 d
 3.8751 25.26922 37.97622 0.00000 -0.001256 d
 4.3595 24.98300 38.36700 0.00000 0.0024534 d
 d - Displacements include imported displacements.

Structure: D | Sub-structure: D2
 Dist. Coordinates Displacements
 [m] x [m] y [m] z [mm]

Vertical Offset 1
 0.0 24.98300 38.36700 0.00000 0.0024534 d
 0.49046 24.58738 38.07712 0.00000 0.0038914 d
 0.98091 24.19175 37.78725 0.00000 0.0053217 d
 1.4714 23.79613 37.49737 0.00000 0.0067333 d
 1.9618 23.40050 37.20750 0.00000 0.0081196 d
 2.4523 23.00488 36.91763 0.00000 0.0094744 d
 2.9427 22.60925 36.62775 0.00000 0.010792 d
 3.4332 22.21363 36.33788 0.00000 0.012068 d
 3.9236 21.81800 36.04800 0.00000 0.013298 d
 d - Displacements include imported displacements.



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Dist. Coordinates Displacements
 [m] x y z z
 [m] [m] [m] [mm]

Structure: D | Sub-structure: D3

Dist. Coordinates Displacements
 [m] x y z z
 [m] [m] [m] [mm]

Vertical Offset 1

0.0 21.81800 36.04800 0.00000 0.013298 d
 0.47627 21.54300 36.43686 0.00000 0.015046 d
 0.95254 21.26800 36.82571 0.00000 0.016631 d
 1.42888 20.99300 37.21457 0.00000 0.018062 d
 1.9051 20.71800 37.60343 0.00000 0.019351 d
 2.3814 20.44300 37.99229 0.00000 0.020506 d
 2.8576 20.16800 38.38114 0.00000 0.021538 d
 3.3339 19.89300 38.77000 0.00000 0.022454 d
 d - Displacements include imported displacements.

Structure: D | Sub-structure: D4

Dist. Coordinates Displacements
 [m] x y z z
 [m] [m] [m] [mm]

Vertical Offset 1

0.0 19.89300 38.77000 0.00000 0.022454 d
 0.48925 20.28885 39.05485 0.00000 0.021968 d
 0.97050 20.67870 39.33970 0.00000 0.021463 d
 1.4558 21.07155 39.62455 0.00000 0.020940 d
 1.9410 21.46439 39.90939 0.00000 0.020401 d
 2.4263 21.85724 40.19424 0.00000 0.019850 d
 2.9115 22.25009 40.47909 0.00000 0.019288 d
 3.3968 22.64294 40.76394 0.00000 0.018718 d
 3.8820 23.03579 41.04879 0.00000 0.018144 d
 4.3673 23.42864 41.33364 0.00000 0.017568 d
 4.8525 23.82148 41.61848 0.00000 0.016994 d
 5.3378 24.21433 41.90333 0.00000 0.016426 d
 5.8230 24.60718 42.18818 0.00000 0.015868 d
 6.3083 25.00003 42.47303 0.00000 0.015321 d
 6.7935 25.39288 42.75788 0.00000 0.014792 d
 7.2788 25.78573 43.04273 0.00000 0.014282 d
 7.7640 26.17858 43.32758 0.00000 0.013796 d
 8.2493 26.57142 43.61242 0.00000 0.013337 d
 8.7345 26.96427 43.89727 0.00000 0.012909 d
 9.2198 27.35712 44.18212 0.00000 0.012514 d
 9.7050 27.74997 44.46697 0.00000 0.012156 d
 10.190 28.14282 44.75182 0.00000 0.011838 d
 10.676 28.53567 45.03667 0.00000 0.011562 d
 11.161 28.92852 45.32152 0.00000 0.011329 d
 11.646 29.32136 45.60636 0.00000 0.011143 d
 12.131 29.71421 45.89121 0.00000 0.011004 d
 12.617 30.10706 46.17606 0.00000 0.010914 d
 13.102 30.49991 46.46091 0.00000 0.010873 d
 13.587 30.89276 46.74576 0.00000 0.010882 d
 14.072 31.28561 47.03061 0.00000 0.010941 d
 14.558 31.67846 47.31546 0.00000 0.011049 d
 15.043 32.07130 47.60030 0.00000 0.011205 d
 15.528 32.46415 47.88515 0.00000 0.011408 d
 16.013 32.85700 48.17000 0.00000 0.011657 d
 d - Displacements include imported displacements.

Structure: D | Sub-structure: D5

Dist. Coordinates Displacements
 [m] x y z z
 [m] [m] [m] [mm]

Vertical Offset 1

0.0 32.85700 48.17000 0.00000 0.011657 d
 0.44175 33.11971 47.81486 0.00000 0.0093101 d
 0.88350 33.38243 47.45971 0.00000 0.0066919 d
 1.3253 33.64514 47.10457 0.00000 0.0037755 d
 1.7670 33.90786 46.74943 0.00000 530.74E-6 d
 2.2088 34.17057 46.39429 0.00000 -0.0030759 d
 2.6505 34.43329 46.03914 0.00000 -0.0070817 d
 3.0923 34.69600 45.68400 0.00000 -0.011528 d
 d - Displacements include imported displacements.

Structure: D | Sub-structure: D6

Dist. Coordinates Displacements
 [m] x y z z
 [m] [m] [m] [mm]

Vertical Offset 1

0.0 34.69600 45.68400 0.00000 -0.011528 d
 0.38681 34.38500 45.45400 0.00000 -0.012059 d
 0.77362 34.07400 45.22400 0.00000 -0.012522 d
 1.1604 33.76300 44.99400 0.00000 -0.012916 d
 d - Displacements include imported displacements.

Structure: D | Sub-structure: D7

Dist. Coordinates Displacements
 [m] x y z z
 [m] [m] [m] [mm]

Vertical Offset 1

0.0 33.76300 44.99400 0.00000 -0.012916 d
 0.45636 34.03270 44.62660 0.00000 -0.018210 d
 0.91271 34.30440 44.25920 0.00000 -0.024108 d
 1.3691 34.57510 43.89180 0.00000 -0.030679 d
 1.8254 34.84580 43.52440 0.00000 -0.037999 d
 2.2818 35.11650 43.15700 0.00000 -0.046159 d
 2.7381 35.38720 42.78960 0.00000 -0.055258 d
 3.1945 35.65790 42.42220 0.00000 -0.065412 d
 3.6509 35.92860 42.05480 0.00000 -0.076755 d
 4.1072 36.19930 41.68740 0.00000 -0.089439 d
 4.5636 36.47000 41.32000 0.00000 -0.10364 d
 d - Displacements include imported displacements.

Structure: D | Sub-structure: D8

Dist. Coordinates Displacements
 [m] x y z z
 [m] [m] [m] [mm]

Vertical Offset 1

0.0 36.47000 41.32000 0.00000 -0.10364 d
 0.47879 36.08257 41.03870 0.00000 -0.10490 d
 0.95758 35.69513 40.75739 0.00000 -0.10574 d
 1.4364 35.30770 40.47609 0.00000 -0.10615 d
 1.9152 34.92026 40.19478 0.00000 -0.10614 d
 2.3939 34.53283 39.91348 0.00000 -0.10570 d
 2.8727 34.14539 39.63217 0.00000 -0.10483 d
 3.3515 33.75796 39.35087 0.00000 -0.10354 d
 3.8303 33.37052 39.06957 0.00000 -0.10185 d
 4.3091 32.98309 38.78826 0.00000 -0.099779 d
 4.7879 32.59565 38.50696 0.00000 -0.097335 d
 5.2667 32.20822 38.22565 0.00000 -0.094547 d
 5.7455 31.82078 37.94435 0.00000 -0.091490 d
 6.2242 31.43335 37.66304 0.00000 -0.088044 d
 6.7030 31.04591 37.38174 0.00000 -0.084388 d
 7.1818 30.65848 37.10043 0.00000 -0.080507 d
 7.6606 30.27104 36.81913 0.00000 -0.076434 d
 8.1394 29.88361 36.53783 0.00000 -0.072205 d



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Dist.	Coordinates			Displacements	
	x	y	z	x	z
[m]	[m]	[m]	[mm]	[mm]	
8.6182	29.49617	36.25652	0.00000	-0.067853	d
9.0970	29.10874	35.97522	0.00000	-0.063415	d
9.5758	28.72130	35.69391	0.00000	-0.058922	d
10.055	28.33387	35.41261	0.00000	-0.054409	d
10.533	27.94643	35.13130	0.00000	-0.049904	d
11.012	27.55900	34.85000	0.00000	-0.045444	d

d - Displacements include imported displacements.

Specific Building Damage Results - All Segments

Structure: A | Sub-structure: A1

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	4.3040	Sagging	0.0010911	0.0	0.0010638	0.0	117.06E-6	26144.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: A | Sub-structure: A2

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	2.5130	Hogging	366.16E-6	0.0	362.10E-6	0.0	47.290E-6	67647.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: A | Sub-structure: A3

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	3.7820	Sagging	0.015068	0.0	0.013674	0.0	0.0013371	931.89	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: A | Sub-structure: A4

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	3.8980	Hogging	0.0051849	0.0	0.0050483	0.0	-328.77E-6	5751.9	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: A | Sub-structure: A5

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	7.9890	Sagging	0.010170	0.0	0.014323	0.0	-0.0010821	1126.1	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: A | Sub-structure: A6

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	6.3580	Hogging	224.22E-6	0.0	209.18E-6	0.0	-8.7782E-6	332980.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B1

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0											

All settlements are less than the Settlement Trough Limit Sensitivity.
Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B2

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0											

All settlements are less than the Settlement Trough Limit Sensitivity.
Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B3

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0											

All settlements are less than the Settlement Trough Limit Sensitivity.
Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B4

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0											

All settlements are less than the Settlement Trough Limit Sensitivity.
Tensile horizontal strains are +ve, compressive horizontal strains are -ve.



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Vertical Movement Calculations
 [m] [m] [m] [%] [%] [%]
 0.0 All settlements are less than the Settlement Trough Limit Sensitivity.
 Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B17

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]	[%]	[%]	[%]			[m]	
0.0										

0.0 All settlements are less than the Settlement Trough Limit Sensitivity.
 Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B18

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]	[%]	[%]	[%]			[m]	
0.0										

0.0 All settlements are less than the Settlement Trough Limit Sensitivity.
 Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B19

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]	[%]	[%]	[%]			[m]	
0.0										

0.0 All settlements are less than the Settlement Trough Limit Sensitivity.
 Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B20

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]	[%]	[%]	[%]			[m]	
0.0										

0.0 All settlements are less than the Settlement Trough Limit Sensitivity.
 Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C1

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category	
[m]		[m]	[m]	[%]	[%]	[%]			[m]		
0.0	1	0.0	4.1060	Sagging	0.0060447	0.0	0.0056817	0.0	-578.30E-6	2793.8	0

(Negligible)
 Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C2

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category	
[m]		[m]	[m]	[%]	[%]	[%]			[m]		
0.0	1	0.0	1.4085	Hogging	27.234E-6	0.0	27.144E-6	0.0	-42.703E-6	438590.	0
	2	1.4085	2.0065	Sagging	50.195E-6	0.0	48.816E-6	0.0	-42.703E-6	331480.	0

(Negligible)
 Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C3

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category	
[m]		[m]	[m]	[%]	[%]	[%]			[m]		
0.0	1	0.0	2.4472	Sagging	252.35E-6	0.0	242.01E-6	0.0	-48.606E-6	98692.	0

(Negligible)
 Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C4

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category	
[m]		[m]	[m]	[%]	[%]	[%]			[m]		
0.0	1	0.48464	0.14996	Hogging	0.0	0.0	0.0	0.0	15.848E-6	14.317E+6	0
	2	0.63460	1.7884	Hogging	10.630E-6	0.0	10.550E-6	0.0	15.848E-6	1.2226E+6	0

(Negligible)
 Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C5

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category	
[m]		[m]	[m]	[%]	[%]	[%]			[m]		
0.0	1	0.0	2.1100	Hogging	58.543E-6	0.0	58.115E-6	0.0	-6.5077E-6	394340.	0

(Negligible)
 Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C6

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category	
[m]		[m]	[m]	[%]	[%]	[%]			[m]		
0.0	1	0.0	6.0330	Hogging	180.60E-6	0.0	169.62E-6	0.0	9.1032E-6	391620.	0

(Negligible)
 Tensile horizontal strains are +ve, compressive horizontal strains are -ve.



A-SQUARED STUDIO

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Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement	Min Radius of Curvature	Damage Category
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Structure: C | Sub-structure: C7

0.0	1	0.0	0.44300	None	0.0	0.0	0.0	45.476E-6	-	0 (Negligible)
-----	---	-----	---------	------	-----	-----	-----	-----------	---	-------------------

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C8

0.0	1	0.0	4.9710	Hogging	113.01E-6	0.0	108.25E-6	0.0	-13.881E-6	397580.0 (Negligible)
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Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C9

0.0	1	0.0	2.6180	Sagging	363.18E-6	0.0	346.29E-6	0.0	58.613E-6	67800.0 (Negligible)
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Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C10

0.0	1	0.0	0.82300	Hogging	10.537E-6	0.0	10.550E-6	0.0	31.347E-6	966750.0 (Negligible)
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Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C11

0.0	1	0.0	4.9410	Sagging	0.0047410	0.0	0.0051168	0.0	452.12E-6	3891.0 (Negligible)
-----	---	-----	--------	---------	-----------	-----	-----------	-----	-----------	------------------------

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C12

0.0	1	0.0	11.065	Hogging	0.0057474	0.0	0.0066939	0.0	293.22E-6	13055.0 (Negligible)
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Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: D | Sub-structure: D1

0.0	All settlements are less than the Settlement Trough Limit Sensitivity.								
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Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: D | Sub-structure: D2

0.0	All settlements are less than the Settlement Trough Limit Sensitivity.								
-----	--	--	--	--	--	--	--	--	--

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: D | Sub-structure: D3

0.0	All settlements are less than the Settlement Trough Limit Sensitivity.								
-----	--	--	--	--	--	--	--	--	--

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: D | Sub-structure: D4

0.0	All settlements are less than the Settlement Trough Limit Sensitivity.								
-----	--	--	--	--	--	--	--	--	--

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: D | Sub-structure: D5

0.0	All settlements are less than the Settlement Trough Limit Sensitivity.								
-----	--	--	--	--	--	--	--	--	--

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
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Structure: D | Sub-structure: D6

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
Calculations		[m]	[m]	[%]	[%]	[%]			[m]	
0.0	All settlements are less than the Settlement Trough Limit Sensitivity.									
Tensile horizontal strains are +ve, compressive horizontal strains are -ve.										

Structure: D | Sub-structure: D7

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
Calculations		[m]	[m]	[%]	[%]	[%]			[m]	
0.0	1 4.5630	0.0	None	0.0	0.0	0.0	0.0	31.125E-6	133060.	0 (Negligible)
Tensile horizontal strains are +ve, compressive horizontal strains are -ve.										

Structure: D | Sub-structure: D8

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
Calculations		[m]	[m]	[%]	[%]	[%]			[m]	
0.0	1 0.0 3.8303 Hogging	88.318E-6		0.0	86.081E-6	0.0	-4.3359E-6	534310.	0 (Negligible)	
Tensile horizontal strains are +ve, compressive horizontal strains are -ve.										

Specific Building Damage Results - Critical Values for All Segments within Each Sub-Structure

Structure: A | Sub-structure: A1

Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Calculations	[m]	[%]	[%]	[mm]	[%]			[m]	[m]	
0.0	0.0010911	0.0	117.06E-6	0.41025	0.0010638	0.0	117.06E-6	-	26144.0	0 (Negligible)

Structure: A | Sub-structure: A2

Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Calculations	[m]	[%]	[%]	[mm]	[%]			[m]	[m]	
0.0	366.16E-6	0.0	47.290E-6	0.50146	362.10E-6	0.0	47.290E-6	67647.	-	0 (Negligible)

Structure: A | Sub-structure: A3

Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Calculations	[m]	[%]	[%]	[mm]	[%]			[m]	[m]	
0.0	0.015068	0.0	0.0013371	2.5644	0.013674	0.0	0.0013371	-	931.89	0 (Negligible)

Structure: A | Sub-structure: A4

Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Calculations	[m]	[%]	[%]	[mm]	[%]			[m]	[m]	
0.0	0.0051849	0.0	-328.77E-6	2.5935	0.0050483	0.0	-328.77E-6	5751.9	-	0 (Negligible)

Structure: A | Sub-structure: A5

Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Calculations	[m]	[%]	[%]	[mm]	[%]			[m]	[m]	
0.0	0.010170	0.0	-0.0010821	2.1043	0.014323	0.0	-0.0010821	-	1126.1	0 (Negligible)

Structure: A | Sub-structure: A6

Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Calculations	[m]	[%]	[%]	[mm]	[%]			[m]	[m]	
0.0	224.22E-6	0.0	-8.7782E-6	0.12961	209.18E-6	0.0	-8.7782E-6	332980.	-	0 (Negligible)

Structure: B | Sub-structure: B1

Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Calculations	[m]	[%]	[%]	[mm]	[%]			[m]	[m]	

Structure: B | Sub-structure: B2

Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Calculations	[m]	[%]	[%]	[mm]	[%]			[m]	[m]	



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Structure: B | Sub-structure: B3

Vertical Offset from Line for Vertical Movement Calculations [m]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max Slope	Max Settlement [mm]	Max Tensile Strain [%]	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging) [m]	Min Radius of Curvature (Sagging) [m]	Damage Category

Structure: B | Sub-structure: B4

Vertical Offset from Line for Vertical Movement Calculations [m]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max Slope	Max Settlement [mm]	Max Tensile Strain [%]	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging) [m]	Min Radius of Curvature (Sagging) [m]	Damage Category

Structure: B | Sub-structure: B5

Vertical Offset from Line for Vertical Movement Calculations [m]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max Slope	Max Settlement [mm]	Max Tensile Strain [%]	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging) [m]	Min Radius of Curvature (Sagging) [m]	Damage Category

Structure: B | Sub-structure: B6

Vertical Offset from Line for Vertical Movement Calculations [m]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max Slope	Max Settlement [mm]	Max Tensile Strain [%]	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging) [m]	Min Radius of Curvature (Sagging) [m]	Damage Category

Structure: B | Sub-structure: B7

Vertical Offset from Line for Vertical Movement Calculations [m]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max Slope	Max Settlement [mm]	Max Tensile Strain [%]	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging) [m]	Min Radius of Curvature (Sagging) [m]	Damage Category

Structure: B | Sub-structure: B8

Vertical Offset from Line for Vertical Movement Calculations [m]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max Slope	Max Settlement [mm]	Max Tensile Strain [%]	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging) [m]	Min Radius of Curvature (Sagging) [m]	Damage Category

Structure: B | Sub-structure: B9

Vertical Offset from Line for Vertical Movement Calculations [m]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max Slope	Max Settlement [mm]	Max Tensile Strain [%]	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging) [m]	Min Radius of Curvature (Sagging) [m]	Damage Category

Structure: B | Sub-structure: B10

Vertical Offset from Line for Vertical Movement Calculations [m]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max Slope	Max Settlement [mm]	Max Tensile Strain [%]	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging) [m]	Min Radius of Curvature (Sagging) [m]	Damage Category

Structure: B | Sub-structure: B11

Vertical Offset from Line for Vertical Movement Calculations [m]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max Slope	Max Settlement [mm]	Max Tensile Strain [%]	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging) [m]	Min Radius of Curvature (Sagging) [m]	Damage Category

Structure: B | Sub-structure: B12

Vertical Offset from Line for Vertical Movement Calculations [m]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max Slope	Max Settlement [mm]	Max Tensile Strain [%]	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging) [m]	Min Radius of Curvature (Sagging) [m]	Damage Category

Structure: B | Sub-structure: B13

Vertical Offset from Line for Vertical Movement Calculations [m]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max Slope	Max Settlement [mm]	Max Tensile Strain [%]	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging) [m]	Min Radius of Curvature (Sagging) [m]	Damage Category

Structure: B | Sub-structure: B14

Vertical Offset from Line for Vertical Movement Calculations [m]	Deflection Ratio [%]	Average Horizontal Strain [%]	Max Slope	Max Settlement [mm]	Max Tensile Strain [%]	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging) [m]	Min Radius of Curvature (Sagging) [m]	Damage Category

Structure: B | Sub-structure: B15



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Vertical Offset from Line for Vertical	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Calculations [m]	[%]	[%]		[mm]	[%]			[m]	[m]	
Structure: B Sub-structure: B16										
Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Calculations [m]	[%]	[%]		[mm]	[%]			[m]	[m]	
Structure: B Sub-structure: B17										
Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Calculations [m]	[%]	[%]		[mm]	[%]			[m]	[m]	
Structure: B Sub-structure: B18										
Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Calculations [m]	[%]	[%]		[mm]	[%]			[m]	[m]	
Structure: B Sub-structure: B19										
Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Calculations [m]	[%]	[%]		[mm]	[%]			[m]	[m]	
Structure: B Sub-structure: B20										
Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Calculations [m]	[%]	[%]		[mm]	[%]			[m]	[m]	
Structure: C Sub-structure: C1										
Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Calculations [m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0060447	0.0	-578.30E-6	1.4369	0.0056817		0.0	-578.30E-6	-	2793.8 0 (Negligible)
Structure: C Sub-structure: C2										
Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Calculations [m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	50.195E-6	0.0	-42.703E-6	0.35102	48.816E-6		0.0	-42.703E-6	438590.	331480. 0 (Negligible)
Structure: C Sub-structure: C3										
Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Calculations [m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	252.35E-6	0.0	-48.606E-6	0.20875	242.01E-6		0.0	-48.606E-6	-	98692. 0 (Negligible)
Structure: C Sub-structure: C4										
Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Calculations [m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	10.630E-6	0.0	15.848E-6	0.13488	10.550E-6		0.0	15.848E-6	1.2226E+6	- 0 (Negligible)
Structure: C Sub-structure: C5										
Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Calculations [m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	58.543E-6	0.0	-6.5077E-6	0.13489	58.115E-6		0.0	-6.5077E-6	394340.	- 0 (Negligible)
Structure: C Sub-structure: C6										
Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Calculations [m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	180.60E-6	0.0	9.1032E-6	0.14658	169.62E-6		0.0	9.1032E-6	391620.	- 0 (Negligible)



A-SQUARED STUDIO

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Vertical Offset from Line for Vertical	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Structure: C Sub-structure: C7										
Calculations	[m]	[%]	[%]	[mm]	[%]			[m]	[m]	
0.0	0.0	0.0	45.476E-6	0.16263	0.0	0.0	45.476E-6	-	-	0 (Negligible)
Structure: C Sub-structure: C8										
Calculations	[m]	[%]	[%]	[mm]	[%]			[m]	[m]	
0.0	113.01E-6	0.0	-13.881E-6	0.16265	108.25E-6	0.0	-13.881E-6	397580.	-	0 (Negligible)
Structure: C Sub-structure: C9										
Calculations	[m]	[%]	[%]	[mm]	[%]			[m]	[m]	
0.0	363.18E-6	0.0	58.613E-6	0.22895	346.29E-6	0.0	58.613E-6	-	67800.	0 (Negligible)
Structure: C Sub-structure: C10										
Calculations	[m]	[%]	[%]	[mm]	[%]			[m]	[m]	
0.0	10.537E-6	0.0	31.347E-6	0.25460	10.550E-6	0.0	31.347E-6	966750.	-	0 (Negligible)
Structure: C Sub-structure: C11										
Calculations	[m]	[%]	[%]	[mm]	[%]			[m]	[m]	
0.0	0.0047410	0.0	452.12E-6	1.2203	0.0051168	0.0	452.12E-6	-	3891.0	0 (Negligible)
Structure: C Sub-structure: C12										
Calculations	[m]	[%]	[%]	[mm]	[%]			[m]	[m]	
0.0	0.0057474	0.0	293.22E-6	1.9633	0.0066939	0.0	293.22E-6	13055.	-	0 (Negligible)
Structure: D Sub-structure: D1										
Calculations	[m]	[%]	[%]	[mm]	[%]			[m]	[m]	
Structure: D Sub-structure: D2										
Calculations	[m]	[%]	[%]	[mm]	[%]			[m]	[m]	
Structure: D Sub-structure: D3										
Calculations	[m]	[%]	[%]	[mm]	[%]			[m]	[m]	
Structure: D Sub-structure: D4										
Calculations	[m]	[%]	[%]	[mm]	[%]			[m]	[m]	
Structure: D Sub-structure: D5										
Calculations	[m]	[%]	[%]	[mm]	[%]			[m]	[m]	
Structure: D Sub-structure: D6										
Calculations	[m]	[%]	[%]	[mm]	[%]			[m]	[m]	

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Calculations [m] [%] [%] [mm] [%] [m] [m]

Structure: D | Sub-structure: D7

Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Calculations	[m]	[%]	[%]	[mm]	[%]	[m]	[m]	[m]	[m]	
0.0	0.0	0.0	31.125E-6	0.10363	0.0	0.0	31.125E-6	-	-	0 (Negligible)

Structure: D | Sub-structure: D8

Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Calculations	[m]	[%]	[%]	[mm]	[%]	[m]	[m]	[m]	[m]	
0.0	88.318E-6	0.0	-4.3359E-6	0.10615	86.081E-6	0.0	-4.3359E-6	534310.	-	0 (Negligible)

Specific Building Damage Results - Critical Segments within Each Structure

Structure Name	Parameter	Critical Sub-structure	Critical Segment	Start	End	Curvature	Max Slope	Max Settlement	Max Tensile Strain	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
A	Max Slope	A3		[m]	[m]	Sagging	0.0013371	[mm]	[%]	[m]	[m]	
	Max Settlement	A4	1	0.0	3.7820	Hogging	328.77E-6	2.5644	0.013674	-	931.89	0 (Negligible)
	Max Tensile Strain	A5	1	0.0	3.8980	Hogging	0.0010821	2.5935	0.0050483	5751.9	-	0 (Negligible)
	Min Radius of Curvature (Hogging)	A4	1	0.0	3.8980	Hogging	328.77E-6	2.5935	0.0050483	5751.9	-	0 (Negligible)
	Min Radius of Curvature (Sagging)	A3	1	0.0	3.7820	Sagging	0.0013371	2.5644	0.013674	-	931.89	0 (Negligible)
B	All settlements are less than the Settlement Trough Limit Sensitivity.											
B	All settlements are less than the Settlement Trough Limit Sensitivity.											
B	All settlements are less than the Settlement Trough Limit Sensitivity.											
B	All settlements are less than the Settlement Trough Limit Sensitivity.											
C	Max Slope	C1	1	0.0	4.1060	Sagging	578.30E-6	1.4369	0.0056817	-	2793.8	0 (Negligible)
	Max Settlement	C12	1	0.0	11.065	Hogging	293.22E-6	1.9633	0.0066939	13055.	-	0 (Negligible)
	Max Tensile Strain	C12	1	0.0	11.065	Hogging	293.22E-6	1.9633	0.0066939	13055.	-	0 (Negligible)
	Min Radius of Curvature (Hogging)	C12	1	0.0	11.065	Hogging	293.22E-6	1.9633	0.0066939	13055.	-	0 (Negligible)
	Min Radius of Curvature (Sagging)	C1	1	0.0	4.1060	Sagging	578.30E-6	1.4369	0.0056817	-	2793.8	0 (Negligible)
D	Max Slope	D7	1	4.5630	4.5630	Sagging	31.125E-6	0.10363	0.0	-	133060.	0 (Negligible)
	Max Settlement	D8	1	0.0	3.8303	Hogging	4.3359E-6	0.10615	86.081E-6	534310.	-	0 (Negligible)
	Max Tensile Strain	D8	1	0.0	3.8303	Hogging	4.3359E-6	0.10615	86.081E-6	534310.	-	0 (Negligible)
	Min Radius of Curvature (Hogging)	D8	1	0.0	3.8303	Hogging	4.3359E-6	0.10615	86.081E-6	534310.	-	0 (Negligible)
	Min Radius of Curvature (Sagging)		-	-	-	-	-	-	-	-	-	-

Xdisp Input and Output

**Model: CIRIA installation and
excavation**



Problem Type

Problem Type : Tunnelling and Embedded Wall Excavations

Displacement Data

Table with columns: Type, Name, Direction of extrusion, Point/Line/Line for extrusion (First point X, Y, Z, Second point X, Y, Z), No. of intervals across extrusion/line, Extrusion depth, No. of intervals along extrusion, Calculate, Surface type for tunnels. Rows include Line A1 through Line D8 and Grid 1.

Vertical Ground Movement Curves (Excavations)

Curve Name: No vertical ground movement
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Settlement / wall depth or max. excavation depth (z)(%)]
Curve Fitting Method: Polynomial
x Order: 1
y Order: 0
Polynomial: z = 0.0x + 0.0
Coeff. of -2147483648.E+2147483647
Determination:

Curve Name: Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(b))
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Settlement / wall depth or max. excavation depth (z)(%)]
Curve Fitting Method: Polynomial
x Order: 1
y Order: 0
Polynomial: z = -2.0E-2x + 4.0E-2
Coeff. of 1.0
Determination:

Curve Name: Installation of planar diaphragm wall in stiff clay (CIRIA 580 Fig. 2.9(b))
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Settlement / wall depth or max. excavation depth (z)(%)]
Curve Fitting Method: Polynomial
x Order: 4
y Order: 0
Polynomial: z = -1.2355E-2x^4 + 3.4814E-2x^3 - 2.8885E-3x^2 - 6.5618E-2x + 4.9987E-2
Coeff. of 1.0000
Determination:

Curve Name: Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(b))
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Settlement / wall depth or max. excavation depth (z)(%)]
Curve Fitting Method: Polynomial
x Order: 4
y Order: 0
Polynomial: z = -2.6455E-3x^4 + 2.8495E-2x^3 - 1.0051E-1x^2 + 1.0569E-1x + 3.8990E-2
Coeff. of 9.9991E-1
Determination:

Horizontal Ground Movement Curves (Excavations)



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Type Name Direction of extrusion Point/Line/Line for extrusion No. of intervals across extrusion/line Extrusion depth No. of intervals along extrusion Calculate Surface type for tunnels

Curve Name: No horizontal ground movement
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Horizontal movement / wall depth or max. excavation depth (z)](%)
 [0.000,0.000,0.000][1.000,0.000,0.000][0.000,1.000,0.000][1.000,1.000,0.000]
Curve Fitting Method: Polynomial
x Order: 0
y Order: 0
Polynomial: z = 0.0
Coeff. of -2147483648.E+2147483647
Determination:

Curve Name: Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(a))
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Horizontal movement / wall depth or max. excavation depth (z)](%)
 [0.000,0.000,0.041][0.050,0.000,0.039][0.100,0.000,0.036][0.150,0.000,0.034][0.200,0.000,0.032][0.250,0.000,0.030][0.300,0.000,0.029][0.350,0.000,0.027][0.400,0.000,0.025][0.450,0.000,0.023][0.500,0.000,0.022][0.550,0.000,0.020][0.600,0.000,0.019][0.650,0.000,0.018][0.700,0.000,0.016][0.750,0.000,0.015][0.800,0.000,0.014][0.850,0.000,0.013][0.900,0.000,0.012][0.950,0.000,0.010][1.000,0.000,0.009][1.050,0.000,0.008][1.100,0.000,0.007][1.150,0.000,0.006][1.200,0.000,0.005][1.250,0.000,0.004][1.300,0.000,0.004][1.350,0.000,0.003][1.400,0.000,0.002][1.450,0.000,0.001][1.500,0.000,0.000]
Curve Fitting Method: Polynomial
x Order: 3
y Order: 0
Polynomial: z = -4.2486E-3x³ + 1.9096E-2x² - 4.6221E-2x + 4.0729E-2
Coeff. of 1.0000
Determination:

Curve Name: Installation of planar diaphragm wall in stiff clay (CIRIA 580 Fig. 2.9(a))
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Horizontal movement / wall depth or max. excavation depth (z)](%)
 [0.000,0.000,0.050][1.500,0.000,0.000]
Curve Fitting Method: Polynomial
x Order: 1
y Order: 0
Polynomial: z = -3.33E-2x + 5.00E-2
Coeff. of 1.00
Determination:

Curve Name: Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(a))
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Horizontal movement / wall depth or max. excavation depth (z)](%)
 [0.000,0.000,0.150][4.000,0.000,0.000]
Curve Fitting Method: Polynomial
x Order: 1
y Order: 0
Polynomial: z = -3.75E-2x + 1.50E-1
Coeff. of 1.00
Determination:

Polygonal Excavations

Excavation Name: InstallContig
Surface level [m]: 0.0
Contribution: Positive
Enabled: Yes

Corner	x	y	Base Level	Stiffened	Previous Side	Next Side
	[m]	[m]	[m]	d	pl p2*	d pl p2*
	[m]	[m]	[m]	[m]	[%] [%]	[m] [%] [%]
1	36.252	28.072	-8.0000	No	- -	- -
2	48.423	37.225	-8.0000	No	- -	- -
3	55.142	28.291	-8.0000	No	- -	- -
4	42.970	19.138	-8.0000	No	- -	- -

Side	Corner 1		Corner 2		Ground Movement Curve	
	x	y	x	y	Vertical	Horizontal
	[m]	[m]	[m]	[m]	[m]	[m]
1	36.252	28.072	48.423	37.225	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(b))	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(a))
2	48.423	37.225	55.142	28.291	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(b))	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(a))
3	55.142	28.291	42.970	19.138	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(b))	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(a))
4	42.970	19.138	36.252	28.072	No vertical ground movement	No horizontal ground movement

Excavation Name: Excavate
Surface level [m]: 0.0
Contribution: Positive
Enabled: Yes

Corner	x	y	Base Level	Stiffened	Previous Side	Next Side
	[m]	[m]	[m]	d	pl p2*	d pl p2*
	[m]	[m]	[m]	[m]	[%] [%]	[m] [%] [%]
1	36.252	28.072	-4.0000	No	- -	- -
2	48.423	37.225	-4.0000	No	- -	- -
3	55.142	28.291	-4.0000	No	- -	- -
4	42.970	19.138	-4.0000	No	- -	- -

Side	Corner 1		Corner 2		Ground Movement Curve	
	x	y	x	y	Vertical	Horizontal
	[m]	[m]	[m]	[m]	[m]	[m]
1	36.252	28.072	48.423	37.225	Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(b))	Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(a))
2	48.423	37.225	55.142	28.291	Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(b))	Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(a))
3	55.142	28.291	42.970	19.138	Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(b))	Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(a))
4	42.970	19.138	36.252	28.072	Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(b))	Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(a))

Excavation Name: IntallUnderpin
Surface level [m]: 0.0
Contribution: Positive
Enabled: Yes

Corner	x	y	Base Level	Stiffened	Previous Side	Next Side
	[m]	[m]	[m]	d	pl p2*	d pl p2*
	[m]	[m]	[m]	[m]	[%] [%]	[m] [%] [%]
1	36.252	28.072	-4.0000	No	- -	- -
2	48.423	37.225	-4.0000	No	- -	- -
3	55.142	28.291	-4.0000	No	- -	- -
4	42.970	19.138	-4.0000	No	- -	- -

Side	Corner 1		Corner 2		Ground Movement Curve	
	x	y	x	y	Vertical	Horizontal
	[m]	[m]	[m]	[m]	[m]	[m]
1	36.252	28.072	48.423	37.225	No vertical ground movement	No horizontal ground movement



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Table with columns: Side, Corner 1 (x, y), Corner 2 (x, y), Ground Movement Curve (Vertical, Horizontal). Rows 2-4 describe ground movement for different sides.

Damage Category Strains

Table showing damage category strain limits: 0 (Negligible) to 4 (Severe) with corresponding Burland Strain Limits values.

Specific Structures - Geometry

Large table listing structure names, sub-structure names, displacement lines, start/end distances, vertical offsets, damage category strains, and Poisson's Ratio for various structures A through D.

Specific Structures - Bending Parameters

Table listing bending parameters for structures A through D, including height, hogging/sagging properties, 2nd moment of area, and distance of N.A. from edge.

Building Segment Combinations

Table listing building segment combinations with columns for structure name, sub-structure name, vertical offset, segment start length, curvature, and combined segment.

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Dist.	Coordinates			Displacements			
	x	y	z	x	y	Horizontal displacement along the line	Horizontal displacement perpendicular to line
0.49935	39.37894	21.87975	0.00000	5.7019	4.2879	-7.1323	0.16458
0.99870	38.98687	21.57050	0.00000	5.4193	4.0754	-6.7788	0.15642
1.49808	38.59481	21.26125	0.00000	5.1366	3.8628	-6.4253	0.14826
1.9974	38.20275	20.95200	0.00000	4.8540	3.6503	-6.0718	0.14011
2.4967	37.81069	20.64275	0.00000	4.5714	3.4378	-5.7183	0.13195
2.9961	37.41862	20.33350	0.00000	4.2888	3.2252	-5.3648	0.12379
3.4954	37.02656	20.02425	0.00000	4.0062	3.0127	-5.0112	0.11563
3.9948	36.63450	19.71500	0.00000	3.7236	2.8002	-4.6577	0.10748
4.4941	36.24244	19.40575	0.00000	3.4410	2.5877	-4.3042	0.099320
4.9935	35.85038	19.09650	0.00000	3.1584	2.3751	-3.9507	0.091163
5.4928	35.45831	18.78725	0.00000	2.8758	2.1626	-3.6066	0.083005
5.9922	35.06625	18.47800	0.00000	2.5932	1.9501	-3.2625	0.074847
6.4915	34.67419	18.16875	0.00000	2.3106	1.7376	-2.9184	0.066689
6.9909	34.28213	17.85950	0.00000	2.0280	1.5251	-2.5743	0.058531
7.4902	33.89007	17.55025	0.00000	1.7454	1.3126	-2.2302	0.050373
7.9896	33.49801	17.24100	0.00000	1.4628	1.1001	-1.8861	0.042215

Structure: A | Sub-structure: A6

Dist.	Coordinates			Displacements			
	x	y	z	x	y	Horizontal displacement along the line	Horizontal displacement perpendicular to line
0.0	33.49800	17.24100	0.00000	2.1847	1.6430	-0.053741	-2.7320
0.48914	33.19638	17.62608	0.00000	2.1819	1.6408	-0.053670	-2.7294
0.97828	32.89477	18.01115	0.00000	2.1790	1.6386	-0.053599	-2.7268
1.4674	32.59315	18.39623	0.00000	2.1761	1.6365	-0.053528	-2.7242
1.9566	32.29154	18.78131	0.00000	2.1732	1.6343	-0.053457	-2.7186
2.4457	31.98992	19.16638	0.00000	2.1703	1.6321	-0.053386	-2.7150
2.9348	31.68831	19.55146	0.00000	2.1675	1.6300	-0.053315	-2.7114
3.4240	31.38669	19.93654	0.00000	2.1646	1.6278	-0.053244	-2.7078
3.9131	31.08508	20.32162	0.00000	2.1617	1.6256	-0.053173	-2.7042
4.4022	30.78346	20.70669	0.00000	2.1588	1.6235	-0.053102	-2.7006
4.8914	30.48185	21.09177	0.00000	2.1559	1.6213	-0.053032	-2.6970
5.3805	30.18023	21.47685	0.00000	2.1530	1.6191	-0.052961	-2.6934
5.8697	29.87862	21.86192	0.00000	2.1502	1.6170	-0.052890	-2.6898
6.3588	29.57700	22.24700	0.00000	2.1473	1.6148	-0.052819	-2.6862

Structure: B | Sub-structure: B1

Dist.	Coordinates			Displacements			
	x	y	z	x	y	Horizontal displacement along the line	Horizontal displacement perpendicular to line
0.0	20.51600	5.45800	0.00000	0.0	0.0	0.0	0.0
0.48720	20.90600	5.75000	0.00000	0.0	0.0	0.0	0.0
0.97440	21.29600	6.04200	0.00000	0.0	0.0	0.0	0.0
1.4616	21.68600	6.33400	0.00000	0.0	0.0	0.0	0.0
1.9488	22.07600	6.62600	0.00000	0.0	0.0	0.0	0.0
2.4360	22.46600	6.91800	0.00000	0.0	0.0	0.0	0.0
2.9232	22.85600	7.21000	0.00000	0.0	0.0	0.0	0.0
3.4104	23.24600	7.50200	0.00000	0.0	0.0	0.0	0.0
3.8976	23.63600	7.79400	0.00000	0.0	0.0	0.0	0.0

Structure: B | Sub-structure: B2

Dist.	Coordinates			Displacements			
	x	y	z	x	y	Horizontal displacement along the line	Horizontal displacement perpendicular to line
0.0	23.63600	7.79400	0.00000	0.0	0.0	0.0	0.0
0.46125	23.35400	8.15900	0.00000	0.0	0.0	0.0	0.0
0.92249	23.07200	8.52400	0.00000	0.0	0.0	0.0	0.0

Structure: B | Sub-structure: B3

Dist.	Coordinates			Displacements			
	x	y	z	x	y	Horizontal displacement along the line	Horizontal displacement perpendicular to line
0.0	23.07200	8.52400	0.00000	0.0	0.0	0.0	0.0
0.46917	23.44545	8.80800	0.00000	0.0	0.0	0.0	0.0
0.93835	23.81891	9.09200	0.00000	0.0	0.0	0.0	0.0
1.4075	24.19236	9.37600	0.00000	0.0	0.0	0.0	0.0
1.8767	24.56582	9.66000	0.00000	0.0	0.0	0.0	0.0
2.3459	24.93927	9.94400	0.00000	0.0	0.0	0.0	0.0
2.8150	25.31273	10.22800	0.00000	0.0	0.0	0.0	0.0
3.2842	25.68618	10.51200	0.00000	0.0	0.0	0.0	0.0
3.7534	26.05964	10.79600	0.00000	0.0	0.0	0.0	0.0
4.2226	26.43309	11.08000	0.00000	0.0	0.0	0.0	0.0
4.6917	26.80655	11.36400	0.00000	0.0	0.0	0.0	0.0
5.1609	27.18000	11.64800	0.00000	0.0	0.0	0.0	0.0

Structure: B | Sub-structure: B4

Dist.	Coordinates			Displacements			
	x	y	z	x	y	Horizontal displacement along the line	Horizontal displacement perpendicular to line
0.0	27.18000	11.64800	0.00000	0.0	0.0	0.0	0.0
0.36061	27.39833	11.36100	0.00000	0.0	0.0	0.0	0.0
0.72122	27.61666	11.07400	0.00000	0.0	0.0	0.0	0.0
1.0818	27.83500	10.78700	0.00000	0.0	0.0	0.0	0.0

Structure: B | Sub-structure: B5

Dist.	Coordinates			Displacements			
	x	y	z	x	y	Horizontal displacement along the line	Horizontal displacement perpendicular to line
0.0	27.83500	10.78700	0.00000	0.0	0.0	0.0	0.0
0.48959	28.22792	11.07908	0.00000	0.0	0.0	0.0	0.0
0.97918	28.62085	11.37115	0.00000	0.0	0.0	0.0	0.0
1.4688	29.01377	11.66323	0.00000	0.10586	0.079609	0.13245	736.68E-6
1.9584	29.40669	11.95531	0.00000	0.25259	0.18995	0.31604	0.0017578
2.4479	29.79962	12.24738	0.00000	0.39933	0.30030	0.49963	0.0027789
2.9375	30.19254	12.53946	0.00000	0.54606	0.41064	0.68322	0.0038000
3.4271	30.58546	12.83154	0.00000	0.69279	0.52099	0.86681	0.0048211
3.9167	30.97838	13.12362	0.00000	0.83952	0.63133	1.0504	0.0058422
4.4063	31.37131	13.41569	0.00000	0.98626	0.74168	1.2340	0.0068633
4.8959	31.76423	13.70777	0.00000	1.1330	0.85202	1.4176	0.0078842
5.3855	32.15715	13.99985	0.00000	1.2797	0.96237	1.6012	0.0089055
5.8751	32.55008	14.29192	0.00000	1.4265	1.0727	1.7848	0.0099266
6.3647	32.94300	14.58400	0.00000	1.5732	1.1831	1.9684	0.010948

Structure: B | Sub-structure: B6

Dist.	Coordinates			Displacements		
	x	y	z	x	y	Horizontal



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x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	22.31400	17.68800	0.00000	0.0	0.0	0.0
0.44350	22.04200	18.04000	0.00000	0.0	0.0	0.0
0.88701	21.77440	18.39200	0.00000	0.0	0.0	0.0
1.3305	21.50460	18.74400	0.00000	0.0	0.0	0.0
1.7740	21.23480	19.09600	0.00000	0.0	0.0	0.0
2.2175	20.96500	19.44800	0.00000	0.0	0.0	0.0

Structure: B | Sub-structure: B15

Dist.	Coordinates			Displacements		
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	20.96500	19.44800	0.00000	0.0	0.0	0.0
0.49138	20.57211	19.15289	0.00000	0.0	0.0	0.0
0.98276	20.17922	18.85778	0.00000	0.0	0.0	0.0
1.4741	19.78633	18.56267	0.00000	0.0	0.0	0.0
1.9655	19.39344	18.26756	0.00000	0.0	0.0	0.0
2.4569	19.00056	17.97244	0.00000	0.0	0.0	0.0
2.9483	18.60767	17.67733	0.00000	0.0	0.0	0.0
3.4396	18.21478	17.38222	0.00000	0.0	0.0	0.0
3.9310	17.82189	17.08711	0.00000	0.0	0.0	0.0
4.4224	17.42900	16.79200	0.00000	0.0	0.0	0.0

Structure: B | Sub-structure: B16

Dist.	Coordinates			Displacements		
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	17.42900	16.79200	0.00000	0.0	0.0	0.0
0.49346	17.71689	16.39122	0.00000	0.0	0.0	0.0
0.98692	18.00478	15.99044	0.00000	0.0	0.0	0.0
1.4804	18.29267	15.58967	0.00000	0.0	0.0	0.0
1.9738	18.58056	15.18889	0.00000	0.0	0.0	0.0
2.4673	18.86844	14.78811	0.00000	0.0	0.0	0.0
2.9608	19.15633	14.38733	0.00000	0.0	0.0	0.0
3.4542	19.44422	13.98656	0.00000	0.0	0.0	0.0
3.9477	19.73211	13.58578	0.00000	0.0	0.0	0.0
4.4411	20.02000	13.18500	0.00000	0.0	0.0	0.0

Structure: B | Sub-structure: B17

Dist.	Coordinates			Displacements		
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	20.02000	13.18500	0.00000	0.0	0.0	0.0
0.48838	19.64200	12.87575	0.00000	0.0	0.0	0.0
0.97677	19.26400	12.56650	0.00000	0.0	0.0	0.0
1.4652	18.88600	12.25725	0.00000	0.0	0.0	0.0
1.9535	18.50800	11.94800	0.00000	0.0	0.0	0.0

Structure: B | Sub-structure: B18

Dist.	Coordinates			Displacements		
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	18.50800	11.94800	0.00000	0.0	0.0	0.0
0.43983	18.77567	11.59900	0.00000	0.0	0.0	0.0
0.87965	19.04333	11.25000	0.00000	0.0	0.0	0.0
1.3195	19.31100	10.90100	0.00000	0.0	0.0	0.0

Structure: B | Sub-structure: B19

Dist.	Coordinates			Displacements		
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	19.31100	10.90100	0.00000	0.0	0.0	0.0
0.47300	18.93320	10.61640	0.00000	0.0	0.0	0.0
0.94600	18.55540	10.33180	0.00000	0.0	0.0	0.0
1.4190	18.17760	10.04720	0.00000	0.0	0.0	0.0
1.8920	17.79980	9.76260	0.00000	0.0	0.0	0.0
2.3650	17.42200	9.47800	0.00000	0.0	0.0	0.0

Structure: B | Sub-structure: B20

Dist.	Coordinates			Displacements		
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	17.42200	9.47800	0.00000	0.0	0.0	0.0
0.46116	17.70327	9.11255	0.00000	0.0	0.0	0.0
0.92233	17.98455	8.74709	0.00000	0.0	0.0	0.0
1.3835	18.26582	8.38164	0.00000	0.0	0.0	0.0
1.8447	18.54709	8.01618	0.00000	0.0	0.0	0.0
2.3058	18.82836	7.65073	0.00000	0.0	0.0	0.0
2.7670	19.10964	7.28527	0.00000	0.0	0.0	0.0
3.2281	19.39091	6.91982	0.00000	0.0	0.0	0.0
3.6893	19.67218	6.55436	0.00000	0.0	0.0	0.0
4.1505	19.95345	6.18891	0.00000	0.0	0.0	0.0
4.6116	20.23473	5.82345	0.00000	0.0	0.0	0.0
5.0728	20.51600	5.45800	0.00000	0.0	0.0	0.0

Structure: C | Sub-structure: C1

Dist.	Coordinates			Displacements		
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	36.28600	29.95000	0.00000	4.8497	-6.4489	-8.0679
0.45629	36.00578	30.31011	0.00000	4.6409	-6.1713	-7.7205
0.91259	35.72556	30.67022	0.00000	4.4371	-5.9003	-7.3815
1.3689	35.44533	31.03033	0.00000	4.2381	-5.6356	-7.0504
1.8252	35.16511	31.39044	0.00000	4.0436	-5.3770	-6.7269
2.2815	34.88489	31.75056	0.00000	3.8535	-5.1242	-6.4106
2.7378	34.60467	32.11067	0.00000	3.6674	-4.8768	-6.1011
3.1941	34.32444	32.47078	0.00000	3.4853	-4.6345	-5.7980
3.6504	34.04422	32.83089	0.00000	3.3067	-4.3971	-5.5010
4.1066	33.76400	33.19100	0.00000	3.1316	-4.1643	-5.2097



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Dist.	Coordinates			Displacements		
	x	y	z	x	y	z

Structure: C | Sub-structure: C2

Dist.	Coordinates			Displacements			
	x	y	z	x	y	z	
[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]	
0.0	33.76400	33.19100	0.00000	3.1316	-4.1643	-0.16936	5.2076
0.48992	33.36471	32.74350	0.00000	2.1256	-4.1563	-0.16903	5.1976
0.97585	32.96543	32.63014	0.00000	3.1196	-4.1482	-0.16871	5.1876
1.4638	32.56614	32.34971	0.00000	3.1126	-3.8578	-0.32992	4.9459
1.9517	32.16686	32.06929	0.00000	3.0900	-3.4752	-0.53135	4.6199
2.4396	31.76757	31.78886	0.00000	3.0498	-3.0957	-0.71652	4.2862
2.9275	31.36829	31.50843	0.00000	2.9917	-2.7292	-0.87967	3.9529
3.4155	30.96900	31.22800	0.00000	2.9264	-2.3761	-1.0292	3.6263

Structure: C | Sub-structure: C3

Dist.	Coordinates			Displacements			
	x	y	z	x	y	z	
[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]	
0.0	30.96900	31.22800	0.00000	2.9264	-2.3761	-3.6264	-1.0289
0.48944	30.68767	31.62850	0.00000	2.7669	-2.3460	-3.5101	-0.91562
0.97887	30.40633	32.02900	0.00000	2.6066	-2.2910	-3.3730	-0.81608
1.4683	30.12500	32.42950	0.00000	2.4461	-2.2159	-3.2193	-0.72790
1.9577	29.84367	32.83000	0.00000	2.2857	-2.1244	-3.0522	-0.64925
2.4472	29.56233	33.23050	0.00000	2.1256	-2.0193	-2.8742	-0.57865
2.9366	29.28100	33.63100	0.00000	1.9659	-1.9029	-2.6872	-0.51488

Structure: C | Sub-structure: C4

Dist.	Coordinates			Displacements			
	x	y	z	x	y	z	
[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]	
0.0	29.28100	33.63100	0.00000	1.9659	-1.9029	0.42810	-2.7023
0.48464	29.66840	33.92220	0.00000	1.9963	-2.0846	0.34317	-2.8658
0.96928	30.05580	34.21340	0.00000	2.0182	-2.2646	0.25254	-3.0229
1.4539	30.44320	34.50460	0.00000	2.0313	-2.4400	0.15764	-3.1710
1.9386	30.83060	34.79580	0.00000	2.0353	-2.6078	0.060026	-3.3075
2.4232	31.21800	35.08700	0.00000	2.0333	-2.7038	746.40E-6	-3.3830

Structure: C | Sub-structure: C5

Dist.	Coordinates			Displacements			
	x	y	z	x	y	z	
[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]	
0.0	31.21800	35.08700	0.00000	2.0333	-2.7038	-1.3675	-3.0943
0.42208	31.42400	35.45540	0.00000	1.9746	-2.6257	-1.3281	-3.0050
0.84417	31.63000	35.82380	0.00000	1.9161	-2.5480	-1.2887	-2.9160
1.2663	31.83600	36.19220	0.00000	1.8579	-2.4705	-1.2495	-2.8273
1.6883	32.04200	36.56060	0.00000	1.7998	-2.3933	-1.2105	-2.7389
2.1104	32.24800	36.92900	0.00000	1.7419	-2.3163	-1.1716	-2.6509

Structure: C | Sub-structure: C6

Dist.	Coordinates			Displacements			
	x	y	z	x	y	z	
[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]	
0.0	32.24800	36.92900	0.00000	1.7419	-2.3163	0.030263	-2.8980
0.46414	32.61285	37.20408	0.00000	1.7436	-2.3185	0.030291	-2.9008
0.92829	32.99569	37.47915	0.00000	1.7452	-2.3207	0.030320	-2.9035
1.3924	33.36954	37.75423	0.00000	1.7468	-2.3229	0.030348	-2.9062
1.8566	33.74338	38.02931	0.00000	1.7485	-2.3250	0.030377	-2.9090
2.3207	34.11723	38.30438	0.00000	1.7501	-2.3272	0.030405	-2.9117
2.7849	34.49108	38.57946	0.00000	1.7518	-2.3294	0.030434	-2.9144
3.2490	34.86492	38.85454	0.00000	1.7534	-2.3316	0.030463	-2.9172
3.7131	35.23877	39.12962	0.00000	1.7551	-2.3338	0.030491	-2.9199
4.1773	35.61262	39.40469	0.00000	1.7567	-2.3360	0.030520	-2.9226
4.6414	35.98646	39.67977	0.00000	1.7583	-2.3382	0.030548	-2.9254
5.1056	36.36031	39.95485	0.00000	1.7600	-2.3403	0.030577	-2.9281
5.5697	36.73415	40.22992	0.00000	1.7616	-2.3425	0.030605	-2.9308
6.0339	37.10800	40.50500	0.00000	1.7633	-2.3447	0.030634	-2.9336

Structure: C | Sub-structure: C7

Dist.	Coordinates			Displacements			
	x	y	z	x	y	z	
[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]	
0.0	37.10800	40.50500	0.00000	1.7633	-2.3447	2.9336	0.028936
0.44342	37.37100	40.14800	0.00000	1.9143	-2.5455	3.1848	0.031414

Structure: C | Sub-structure: C8

Dist.	Coordinates			Displacements			
	x	y	z	x	y	z	
[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]	
0.0	37.37100	40.14800	0.00000	1.9143	-2.5455	0.032820	-3.1848
0.49716	37.77140	40.44270	0.00000	1.9160	-2.5478	0.032850	-3.1877
0.99432	38.17180	40.73740	0.00000	1.9178	-2.5502	0.032880	-3.1906
1.4915	38.57220	41.03210	0.00000	1.9195	-2.5525	0.032910	-3.1935
1.9886	38.97260	41.32680	0.00000	1.9213	-2.5548	0.032940	-3.1965
2.4858	39.37300	41.62150	0.00000	1.9230	-2.5571	0.032970	-3.1994
2.9830	39.77340	41.91620	0.00000	1.9248	-2.5595	0.033000	-3.2023
3.4801	40.17380	42.21090	0.00000	1.9265	-2.5618	0.033031	-3.2052
3.9773	40.57420	42.50560	0.00000	1.9283	-2.5641	0.033061	-3.2081
4.4744	40.97460	42.80030	0.00000	1.9301	-2.5665	0.033091	-3.2110
4.9716	41.37500	43.09500	0.00000	1.9318	-2.5688	0.033121	-3.2140

Structure: C | Sub-structure: C9

Dist.	Coordinates			Displacements			
	x	y	z	x	y	z	
[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]	
0.0	41.37500	43.09500	0.00000	1.9318	-2.5688	3.2140	0.033371
0.43642	41.63357	42.74350	0.00000	2.0820	-2.7685	3.4638	0.035965
0.87284	41.89233	42.39200	0.00000	2.2337	-2.9703	3.7163	0.038587
1.3093	42.15100	42.04050	0.00000	2.3873	-3.1745	3.9717	0.041240

Structure: C | Sub-structure: C10

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
1.7457	42.40967	41.68900	0.00000	2.5428	-3.3813	4.2305
2.1821	42.66833	41.33750	0.00000	2.7006	-3.5911	4.4929
2.6185	42.92700	40.98600	0.00000	2.8607	-3.8040	4.7593

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
	[m]	[m]	[m]	[mm]	[mm]	[mm]
	0.0	42.92700	40.98600	2.8607	-3.8040	-0.048940
0.41162	42.59550	40.74200	0.00000	2.8591	-3.8019	-0.048914
0.82323	42.26400	40.49800	0.00000	2.8575	-3.7998	-0.048887

Structure: C | Sub-structure: C11

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
	[m]	[m]	[m]	[mm]	[mm]	[mm]
	0.0	42.26400	40.49800	2.8575	-3.7998	4.7541
0.49410	42.55680	40.10000	0.00000	3.0419	-4.0450	5.0608
0.98820	42.84960	39.70200	0.00000	3.2399	-4.2949	5.3736
1.4823	43.14240	39.30400	0.00000	3.4217	-4.5500	5.6927
1.9764	43.43520	38.90600	0.00000	3.6177	-4.8107	6.0189
2.4705	43.72800	38.50800	0.00000	3.8182	-5.0773	6.3524
2.9646	44.02080	38.11000	0.00000	4.0235	-5.3502	6.6939
3.4587	44.31360	37.71200	0.00000	4.2338	-5.6299	7.0438
3.9528	44.60640	37.31400	0.00000	4.4494	-5.9166	7.4025
4.4469	44.89920	36.91600	0.00000	4.6707	-6.2108	7.7706
4.9410	45.19200	36.51800	0.00000	4.8978	-6.5129	8.1486

Structure: C | Sub-structure: C12

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
	[m]	[m]	[m]	[mm]	[mm]	[mm]
	0.0	45.19200	36.51800	4.8978	-6.5129	-0.076228
0.48113	44.80478	36.23243	0.00000	4.8957	-6.5101	-0.076196
0.96226	44.41757	35.94587	0.00000	4.8936	-6.5073	-0.076163
1.4434	44.03035	35.66130	0.00000	4.8915	-6.5045	-0.076130
1.9245	43.64313	35.37574	0.00000	4.8895	-6.5017	-0.076098
2.4056	43.25591	35.09017	0.00000	4.8874	-6.4989	-0.076065
2.8868	42.86870	34.80461	0.00000	4.8853	-6.4962	-0.076033
3.3679	42.48148	34.51904	0.00000	4.8832	-6.4934	-0.076000
3.8490	42.09426	34.23348	0.00000	4.8811	-6.4906	-0.075967
4.3302	41.70704	33.94791	0.00000	4.8790	-6.4878	-0.075935
4.8113	41.31983	33.66235	0.00000	4.8769	-6.4850	-0.075902
5.2924	40.93261	33.37678	0.00000	4.8748	-6.4822	-0.075870
5.7735	40.54539	33.09122	0.00000	4.8727	-6.4795	-0.075837
6.2547	40.15817	32.80565	0.00000	4.8706	-6.4767	-0.075805
6.7358	39.77096	32.52009	0.00000	4.8685	-6.4739	-0.075772
7.2169	39.38374	32.23452	0.00000	4.8664	-6.4711	-0.075740
7.6981	38.99652	31.94896	0.00000	4.8644	-6.4684	-0.075707
8.1792	38.60930	31.66339	0.00000	4.8623	-6.4656	-0.075675
8.6603	38.22209	31.37783	0.00000	4.8602	-6.4628	-0.075642
9.1414	37.83487	31.09226	0.00000	4.8581	-6.4600	-0.075610
9.6226	37.44765	30.80670	0.00000	4.8560	-6.4572	-0.075577
10.1037	37.06043	30.52113	0.00000	4.8539	-6.4545	-0.075545
10.5848	36.67322	30.23557	0.00000	4.8518	-6.4517	-0.075512
11.0660	36.28600	29.95000	0.00000	4.8497	-6.4489	-0.075480

Structure: D | Sub-structure: D1

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
	[m]	[m]	[m]	[mm]	[mm]	[mm]
	0.0	27.55900	34.85000	1.2712	-1.1690	-1.6942
0.48439	27.27278	35.24078	0.00000	1.1167	-1.0331	-1.4933
0.96877	26.98656	35.63156	0.00000	0.96197	-0.89125	-1.2874
1.4532	26.70033	36.02233	0.00000	0.84441	-0.79389	-1.1394
1.9375	26.41411	36.41311	0.00000	0.72187	-0.69876	-1.039618
2.4219	26.12789	36.80389	0.00000	0.61958	-0.59998	-0.95014
2.9063	25.84167	37.19467	0.00000	0.50751	-0.49792	-0.70158
3.3907	25.55544	37.58544	0.00000	0.39565	-0.39289	-0.55075
3.8751	25.26922	37.97622	0.00000	0.28397	-0.28517	-0.39786
4.3595	24.98300	38.36700	0.00000	0.17247	-0.17501	-0.24310

Structure: D | Sub-structure: D2

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
	[m]	[m]	[m]	[mm]	[mm]	[mm]
	0.0	24.98300	38.36700	0.00000	0.17247	-0.17501
0.49046	24.58738	38.07712	0.00000	0.14903	-0.14366	-0.035307
0.98091	24.19175	37.78725	0.00000	0.12175	-0.11135	-0.032401
1.4714	23.79613	37.49737	0.00000	0.090662	-0.078560	-0.026701
1.9618	23.40050	37.20750	0.00000	0.055789	-0.045741	-0.017967
2.4523	23.00488	36.91763	0.00000	0.017181	-0.013311	-0.0059922
2.9427	22.60925	36.62775	0.00000	0.0	0.0	0.0
3.4332	22.21363	36.33788	0.00000	0.0	0.0	0.0
3.9236	21.81800	36.04800	0.00000	0.0	0.0	0.0

Structure: D | Sub-structure: D3

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
	[m]	[m]	[m]	[mm]	[mm]	[mm]
	0.0	21.81800	36.04800	0.00000	0.0	0.0
0.47627	21.54300	36.43686	0.00000	0.0	0.0	0.0
0.95254	21.26800	36.82571	0.00000	0.0	0.0	0.0
1.4288	20.99300	37.21457	0.00000	0.0	0.0	0.0
1.9051	20.71800	37.60343	0.00000	0.0	0.0	0.0
2.3814	20.44300	37.99229	0.00000	0.0	0.0	0.0
2.8576	20.16800	38.38114	0.00000	0.0	0.0	0.0
3.3339	19.89300	38.77000	0.00000	0.0	0.0	0.0

Structure: D | Sub-structure: D4

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
	[m]	[m]	[m]	[mm]	[mm]	[mm]
	0.0	21.81800	36.04800	0.00000	0.0	0.0



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Structure: A | Sub-structure: A2

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	
2.8697	31.81900	24.03833	0.00000	2.1820	
3.3480	32.19267	24.33689	0.00000	2.3869	
3.8263	32.56633	24.63544	0.00000	2.5775	
4.3046	32.94000	24.93400	0.00000	2.7603	

Structure: A | Sub-structure: A3

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	
0.0	32.94000	24.93400	0.00000	2.7603	
0.41896	33.20150	24.60667	0.00000	2.7649	
0.83792	33.46300	24.27933	0.00000	2.7695	
1.25689	33.72450	23.95200	0.00000	2.7741	
1.6758	33.98600	23.62467	0.00000	2.7787	
2.0948	34.24750	23.29733	0.00000	2.7833	
2.5138	34.50900	22.97000	0.00000	2.7879	

Structure: A | Sub-structure: A4

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	
0.0	37.46400	25.33100	0.00000	3.7238	
0.47280	34.87837	23.26512	0.00000	2.9635	
0.94559	35.24775	23.56025	0.00000	3.1350	
1.4184	35.61713	23.85537	0.00000	3.2995	
1.8912	35.98650	24.15050	0.00000	3.4515	
2.3640	36.35587	24.44563	0.00000	3.5825	
2.8368	36.72525	24.74075	0.00000	3.6814	
3.3096	37.09463	25.03588	0.00000	3.7341	
3.7824	37.46400	25.33100	0.00000	3.7238	

Structure: A | Sub-structure: A5

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	
0.0	39.77100	22.18900	0.00000	3.7280	
0.49935	39.37894	21.87975	0.00000	3.7298	
0.99870	38.98687	21.57050	0.00000	3.6642	
1.4980	38.59481	21.26125	0.00000	3.5506	
1.9974	38.20275	20.95200	0.00000	3.4047	
2.4967	37.81069	20.64275	0.00000	3.2387	
2.9961	37.41862	20.33350	0.00000	3.0615	
3.4954	37.02656	20.02425	0.00000	2.8782	
3.9948	36.63450	19.71500	0.00000	2.6906	
4.4941	36.24244	19.40575	0.00000	2.4970	
4.9935	35.85038	19.09650	0.00000	2.2922	
5.4928	35.45831	18.78725	0.00000	2.0818	
5.9922	35.06625	18.47800	0.00000	1.8795	
6.4915	34.67419	18.16875	0.00000	1.6750	
6.9909	34.28213	17.85950	0.00000	1.4730	
7.4902	33.89006	17.55025	0.00000	1.2776	
7.9896	33.49800	17.24100	0.00000	1.0921	

Structure: A | Sub-structure: A6

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	
0.0	33.49800	17.24100	0.00000	1.0921	
0.48914	33.19638	17.62608	0.00000	1.0887	
0.97828	32.89477	18.01115	0.00000	1.0852	
1.4674	32.59315	18.39623	0.00000	1.0818	
1.9566	32.29154	18.78131	0.00000	1.0783	
2.4457	31.98992	19.16638	0.00000	1.0749	
2.9348	31.68831	19.55146	0.00000	1.0715	
3.4240	31.38669	19.93654	0.00000	1.0681	
3.9131	31.08508	20.32162	0.00000	1.0646	
4.4022	30.78346	20.70669	0.00000	1.0612	
4.8914	30.48185	21.09177	0.00000	1.0578	
5.3805	30.18023	21.47685	0.00000	1.0544	
5.8697	29.87862	21.86192	0.00000	1.0510	
6.3588	29.57700	22.24700	0.00000	1.0476	

Structure: B | Sub-structure: B1

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	
0.0	20.51600	5.45800	0.00000	0.0	
0.48720	20.90600	5.75000	0.00000	0.0	
0.97440	21.29600	6.04200	0.00000	0.0	
1.4616	21.68600	6.33400	0.00000	0.0	
1.9488	22.07600	6.62600	0.00000	0.0	
2.4360	22.46600	6.91800	0.00000	0.0	
2.9232	22.85600	7.21000	0.00000	0.0	
3.4104	23.24600	7.50200	0.00000	0.0	
3.8976	23.63600	7.79400	0.00000	0.0	

Structure: B | Sub-structure: B2

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	
0.0	23.63600	7.79400	0.00000	0.0	
0.46125	23.35400	8.15900	0.00000	0.0	
0.92249	23.07200	8.52400	0.00000	0.0	

Structure: B | Sub-structure: B3

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	
0.0	23.63600	7.79400	0.00000	0.0	
0.46125	23.35400	8.15900	0.00000	0.0	
0.92249	23.07200	8.52400	0.00000	0.0	

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Dist. Coordinates Displacements
 [m] [m] [m] [m] [mm]

Vertical Offset 1

0.0	23.07200	8.52400	0.00000	0.0
0.46917	23.44545	8.80800	0.00000	0.0
0.93835	23.81891	9.09200	0.00000	0.0
1.4075	24.19236	9.37600	0.00000	0.0
1.8767	24.56582	9.66000	0.00000	0.0
2.3459	24.93927	9.94400	0.00000	0.0
2.8150	25.31273	10.22800	0.00000	0.0
3.2842	25.68618	10.51200	0.00000	0.0
3.7534	26.05964	10.79600	0.00000	0.0
4.2226	26.43309	11.08000	0.00000	0.0
4.6917	26.80655	11.36400	0.00000	0.0
5.1609	27.18000	11.64800	0.00000	0.0

Structure: B | Sub-structure: B4

Dist. Coordinates Displacements
 [m] [m] [m] [m] [mm]

Vertical Offset 1

0.0	27.18000	11.64800	0.00000	0.0
0.36061	27.39833	11.36100	0.00000	0.0
0.72122	27.61667	11.07400	0.00000	0.0
1.0818	27.83500	10.78700	0.00000	0.0

Structure: B | Sub-structure: B5

Dist. Coordinates Displacements
 [m] [m] [m] [m] [mm]

Vertical Offset 1

0.0	27.83500	10.78700	0.00000	0.0
0.48959	28.22792	11.07908	0.00000	0.0
0.97918	28.62085	11.37115	0.00000	0.0
1.4688	29.01377	11.66323	0.00000	0.027621
1.9584	29.40669	11.95531	0.00000	0.052290
2.4479	29.79962	12.24738	0.00000	0.071524
2.9375	30.19254	12.53946	0.00000	0.090144
3.4271	30.58546	12.83154	0.00000	0.11240
3.9167	30.97838	13.12362	0.00000	0.14198
4.4063	31.37131	13.41569	0.00000	0.18199
4.8959	31.76423	13.70777	0.00000	0.23496
5.3855	32.15715	13.99985	0.00000	0.30288
5.8751	32.55008	14.29192	0.00000	0.38715
6.3647	32.94300	14.58400	0.00000	0.48858

Structure: B | Sub-structure: B6

Dist. Coordinates Displacements
 [m] [m] [m] [m] [mm]

Vertical Offset 1

0.0	32.94300	14.58400	0.00000	0.48858
0.35614	32.93032	14.86967	0.00000	0.48897
0.71227	32.51767	15.15533	0.00000	0.48936
1.0684	32.30500	15.44100	0.00000	0.48975

Structure: B | Sub-structure: B7

Dist. Coordinates Displacements
 [m] [m] [m] [m] [mm]

Vertical Offset 1

0.0	32.30500	15.44100	0.00000	0.48975
0.36690	32.60133	15.65733	0.00000	0.57734
0.73379	32.89767	15.87367	0.00000	0.67462
1.1007	33.19400	16.09000	0.00000	0.78132

Structure: B | Sub-structure: B8

Dist. Coordinates Displacements
 [m] [m] [m] [m] [mm]

Vertical Offset 1

0.0	33.19400	16.09000	0.00000	0.78132
0.48246	32.90414	16.47568	0.00000	0.78137
0.96493	32.61427	16.86136	0.00000	0.78141
1.4474	32.32441	17.24705	0.00000	0.78145
1.9299	32.03455	17.63273	0.00000	0.78149
2.4123	31.74468	18.01841	0.00000	0.78153
2.8948	31.45482	18.40409	0.00000	0.78158
3.3772	31.16495	18.78977	0.00000	0.78162
3.8597	30.87509	19.17545	0.00000	0.78166
4.3422	30.58523	19.56114	0.00000	0.78170
4.8246	30.29536	19.94682	0.00000	0.78175
5.3071	30.00550	20.33250	0.00000	0.78179
5.7896	29.71564	20.71818	0.00000	0.78183
6.2720	29.42577	21.10386	0.00000	0.78187
6.7545	29.13591	21.48955	0.00000	0.78192
7.2370	28.84605	21.87523	0.00000	0.78196
7.7194	28.55618	22.26091	0.00000	0.78200
8.2019	28.26632	22.64659	0.00000	0.81748
8.6843	27.97645	23.03227	0.00000	0.84669
9.1668	27.68659	23.41795	0.00000	0.86764
9.6493	27.39673	23.80364	0.00000	0.88014
10.132	27.10686	24.18932	0.00000	0.89419
10.614	26.81700	24.57500	0.00000	0.88001

Structure: B | Sub-structure: B9

Dist. Coordinates Displacements
 [m] [m] [m] [m] [mm]

Vertical Offset 1

0.0	26.81700	24.57500	0.00000	0.88001
0.43274	26.47567	24.30900	0.00000	0.74852
0.86548	26.13433	24.04300	0.00000	0.63096
1.2982	25.79300	23.77700	0.00000	0.52735
1.7310	25.45167	23.51100	0.00000	0.43742
2.1637	25.11033	23.24500	0.00000	0.36062
2.5964	24.76900	22.97900	0.00000	0.29605

Structure: B | Sub-structure: B10

Dist. Coordinates Displacements
 [m] [m] [m] [m] [mm]

Vertical Offset 1

0.0	24.76900	22.97900	0.00000	0.29605
0.43530	25.02950	22.63025	0.00000	0.29275
0.87060	25.29000	22.28150	0.00000	0.28700



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Dist.	Coordinates			Displacements	
[m]	x	y	z	z	z
[m]	[m]	[m]	[m]	[mm]	[mm]

1.3059	25.55050	21.93275	0.00000	0.27877	
1.7412	25.81100	21.58400	0.00000	0.26813	

Structure: B | Sub-structure: B11

Dist.	Coordinates			Displacements	
[m]	x	y	z	z	z
[m]	[m]	[m]	[m]	[mm]	[mm]

Vertical Offset 1

0.0	25.81100	21.58400	0.00000	0.26813	
0.47915	25.43280	21.28980	0.00000	0.21138	
0.95831	25.05460	20.99560	0.00000	0.16722	
1.4375	24.67640	20.70140	0.00000	0.13321	
1.9166	24.29820	20.40720	0.00000	0.10638	
2.3958	23.92000	20.11300	0.00000	0.083249	

Structure: B | Sub-structure: B12

Dist.	Coordinates			Displacements	
[m]	x	y	z	z	z
[m]	[m]	[m]	[m]	[mm]	[mm]

Vertical Offset 1

0.0	23.92000	20.11300	0.00000	0.083249	
0.47317	24.21050	19.73950	0.00000	0.079256	
0.94635	24.50100	19.36600	0.00000	0.074384	

Structure: B | Sub-structure: B13

Dist.	Coordinates			Displacements	
[m]	x	y	z	z	z
[m]	[m]	[m]	[m]	[mm]	[mm]

Vertical Offset 1

0.0	24.50100	19.36600	0.00000	0.074384	
0.45943	24.13650	19.08633	0.00000	0.056177	
0.91886	23.77200	18.80667	0.00000	0.033922	
1.3783	23.40750	18.52700	0.00000	0.0	
1.8377	23.04300	18.24733	0.00000	0.0	
2.2971	22.67850	17.96767	0.00000	0.0	
2.7566	22.31400	17.68800	0.00000	0.0	

Structure: B | Sub-structure: B14

Dist.	Coordinates			Displacements	
[m]	x	y	z	z	z
[m]	[m]	[m]	[m]	[mm]	[mm]

Vertical Offset 1

0.0	22.31400	17.68800	0.00000	0.0	
0.44350	22.04420	18.04000	0.00000	0.0	
0.88701	21.77440	18.39200	0.00000	0.0	
1.3305	21.50460	18.74400	0.00000	0.0	
1.7740	21.23480	19.09600	0.00000	0.0	
2.2175	20.96500	19.44800	0.00000	0.0	

Structure: B | Sub-structure: B15

Dist.	Coordinates			Displacements	
[m]	x	y	z	z	z
[m]	[m]	[m]	[m]	[mm]	[mm]

Vertical Offset 1

0.0	20.96500	19.44800	0.00000	0.0	
0.49138	20.57211	19.15289	0.00000	0.0	
0.98276	20.17922	18.85778	0.00000	0.0	
1.4741	19.78633	18.56267	0.00000	0.0	
1.9655	19.39344	18.26756	0.00000	0.0	
2.4569	19.00056	17.97244	0.00000	0.0	
2.9483	18.60767	17.67733	0.00000	0.0	
3.4396	18.21478	17.38222	0.00000	0.0	
3.9310	17.82189	17.08711	0.00000	0.0	
4.4224	17.42900	16.79200	0.00000	0.0	

Structure: B | Sub-structure: B16

Dist.	Coordinates			Displacements	
[m]	x	y	z	z	z
[m]	[m]	[m]	[m]	[mm]	[mm]

Vertical Offset 1

0.0	17.42900	16.79200	0.00000	0.0	
0.49346	17.71689	16.39122	0.00000	0.0	
0.98692	18.00478	15.99044	0.00000	0.0	
1.4804	18.29267	15.58967	0.00000	0.0	
1.9738	18.58056	15.18889	0.00000	0.0	
2.4673	18.86844	14.78811	0.00000	0.0	
2.9608	19.15633	14.38733	0.00000	0.0	
3.4542	19.44422	13.98656	0.00000	0.0	
3.9477	19.73211	13.58578	0.00000	0.0	
4.4411	20.02000	13.18500	0.00000	0.0	

Structure: B | Sub-structure: B17

Dist.	Coordinates			Displacements	
[m]	x	y	z	z	z
[m]	[m]	[m]	[m]	[mm]	[mm]

Vertical Offset 1

0.0	20.02000	13.18500	0.00000	0.0	
0.48838	19.64200	12.87575	0.00000	0.0	
0.97677	19.26400	12.56650	0.00000	0.0	
1.4652	18.88600	12.25725	0.00000	0.0	
1.9535	18.50800	11.94800	0.00000	0.0	

Structure: B | Sub-structure: B18

Dist.	Coordinates			Displacements	
[m]	x	y	z	z	z
[m]	[m]	[m]	[m]	[mm]	[mm]

Vertical Offset 1

0.0	18.50800	11.94800	0.00000	0.0	
0.43983	18.77567	11.59900	0.00000	0.0	
0.87965	19.04333	11.25000	0.00000	0.0	
1.3195	19.31100	10.90100	0.00000	0.0	

Structure: B | Sub-structure: B19

Dist.	Coordinates			Displacements	
[m]	x	y	z	z	z
[m]	[m]	[m]	[m]	[mm]	[mm]

Vertical Offset 1

0.0	19.31100	10.90100	0.00000	0.0	
0.47300	18.93320	10.61640	0.00000	0.0	
0.94600	18.55540	10.33180	0.00000	0.0	
1.4190	18.17760	10.04720	0.00000	0.0	
1.8920	17.79980	9.76260	0.00000	0.0	



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Dist.	Coordinates			Displacements	
	x	y	z	z	z
[m]	[m]	[m]	[m]	[m]	[mm]
2.3650	17.42200	9.47800	0.00000	0.0	0.0

Structure: B | Sub-structure: B20

Dist.	Coordinates			Displacements	
	x	y	z	z	z
[m]	[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1					
0.0	17.42200	9.47800	0.00000	0.0	0.0
0.46116	17.70327	9.11255	0.00000	0.0	0.0
0.92233	17.98455	8.74709	0.00000	0.0	0.0
1.3835	18.26582	8.38164	0.00000	0.0	0.0
1.8447	18.54709	8.01618	0.00000	0.0	0.0
2.3058	18.82836	7.65073	0.00000	0.0	0.0
2.7670	19.10964	7.28527	0.00000	0.0	0.0
3.2281	19.39091	6.91982	0.00000	0.0	0.0
3.6893	19.67218	6.55436	0.00000	0.0	0.0
4.1505	19.95345	6.18891	0.00000	0.0	0.0
4.6116	20.23473	5.82345	0.00000	0.0	0.0
5.0728	20.51600	5.45800	0.00000	0.0	0.0

Structure: C | Sub-structure: C1

Dist.	Coordinates			Displacements	
	x	y	z	z	z
[m]	[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1					
0.0	36.28600	29.95000	0.00000	5.5333	0.0
0.45629	36.00578	30.31011	0.00000	5.6003	0.0
0.91259	35.72556	30.67022	0.00000	5.6019	0.0
1.3689	35.44533	31.03033	0.00000	5.5461	0.0
1.8252	35.16511	31.39044	0.00000	5.4406	0.0
2.2815	34.88489	31.75056	0.00000	5.2928	0.0
2.7378	34.60467	32.11067	0.00000	5.1094	0.0
3.1941	34.32444	32.47078	0.00000	4.8968	0.0
3.6504	34.04422	32.83089	0.00000	4.6610	0.0
4.1066	33.76400	33.19100	0.00000	4.4074	0.0

Structure: C | Sub-structure: C2

Dist.	Coordinates			Displacements	
	x	y	z	z	z
[m]	[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1					
0.0	33.76400	33.19100	0.00000	4.4074	0.0
0.48792	33.36471	32.91057	0.00000	4.3984	0.0
0.97585	32.96543	32.63014	0.00000	4.3893	0.0
1.4638	32.56614	32.34971	0.00000	4.2864	0.0
1.9517	32.16686	32.06929	0.00000	4.1366	0.0
2.4396	31.76757	31.78886	0.00000	3.9685	0.0
2.9275	31.36829	31.50843	0.00000	3.7846	0.0
3.4155	30.96900	31.22800	0.00000	3.5895	0.0

Structure: C | Sub-structure: C3

Dist.	Coordinates			Displacements	
	x	y	z	z	z
[m]	[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1					
0.0	30.96900	31.22800	0.00000	3.5895	0.0
0.48944	30.68767	31.52850	0.00000	3.3763	0.0
0.97877	30.40633	32.02900	0.00000	3.1496	0.0
1.4683	30.12500	32.42950	0.00000	2.9148	0.0
1.9577	29.84367	32.83000	0.00000	2.6769	0.0
2.4472	29.56233	33.23050	0.00000	2.4401	0.0
2.9366	29.28100	33.63100	0.00000	2.2082	0.0

Structure: C | Sub-structure: C4

Dist.	Coordinates			Displacements	
	x	y	z	z	z
[m]	[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1					
0.0	29.28100	33.63100	0.00000	2.2082	0.0
0.48464	29.66840	33.92220	0.00000	2.3135	0.0
0.96928	30.05580	34.21340	0.00000	2.4081	0.0
1.4539	30.44320	34.50460	0.00000	2.4906	0.0
1.9386	30.83060	34.79580	0.00000	2.5596	0.0
2.4232	31.21800	35.08700	0.00000	2.5940	0.0

Structure: C | Sub-structure: C5

Dist.	Coordinates			Displacements	
	x	y	z	z	z
[m]	[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1					
0.0	31.21800	35.08700	0.00000	2.5940	0.0
0.42208	31.42400	35.45540	0.00000	2.4986	0.0
0.84417	31.63000	35.82380	0.00000	2.4048	0.0
1.2663	31.83600	36.19220	0.00000	2.3127	0.0
1.6883	32.04200	36.56060	0.00000	2.2222	0.0
2.1104	32.24800	36.92900	0.00000	2.1336	0.0

Structure: C | Sub-structure: C6

Dist.	Coordinates			Displacements	
	x	y	z	z	z
[m]	[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1					
0.0	32.24800	36.92900	0.00000	2.1336	0.0
0.46414	32.62185	37.20408	0.00000	2.1361	0.0
0.92829	32.99569	37.47915	0.00000	2.1386	0.0
1.3924	33.36954	37.75423	0.00000	2.1411	0.0
1.8566	33.74338	38.02931	0.00000	2.1436	0.0
2.3207	34.11723	38.30438	0.00000	2.1461	0.0
2.7849	34.49108	38.57946	0.00000	2.1486	0.0
3.2490	34.86492	38.85454	0.00000	2.1511	0.0
3.7131	35.23877	39.12962	0.00000	2.1536	0.0
4.1773	35.61262	39.40469	0.00000	2.1561	0.0
4.6414	35.98646	39.67977	0.00000	2.1586	0.0
5.1056	36.36031	39.95485	0.00000	2.1611	0.0
5.5697	36.73415	40.22992	0.00000	2.1636	0.0
6.0339	37.10800	40.50500	0.00000	2.1661	0.0

Structure: C | Sub-structure: C7

Dist.	Coordinates			Displacements	
	x	y	z	z	z
[m]	[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1					
0.0	37.10800	40.50500	0.00000	2.1661	0.0
0.44342	37.37100	40.14800	0.00000	2.4018	0.0



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Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	

Structure: C | Sub-structure: C8

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	

Vertical Offset 1

0.0	37.37100	40.14800	0.00000	2.4018	
0.49716	37.77140	40.44270	0.00000	2.4046	
0.99432	38.17180	40.73740	0.00000	2.4074	
1.4915	38.57220	41.03210	0.00000	2.4102	
1.9886	38.97260	41.32680	0.00000	2.4130	
2.4858	39.37300	41.62150	0.00000	2.4158	
2.9830	39.77340	41.91620	0.00000	2.4186	
3.4801	40.17380	42.21090	0.00000	2.4214	
3.9773	40.57420	42.50560	0.00000	2.4242	
4.4744	40.97460	42.80030	0.00000	2.4270	
4.9716	41.37500	43.09500	0.00000	2.4298	

Structure: C | Sub-structure: C9

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	

Vertical Offset 1

0.0	41.37500	43.09500	0.00000	2.4298	
0.43642	41.63367	42.74350	0.00000	2.6739	
0.87284	41.89233	42.39200	0.00000	2.9269	
1.3093	42.15100	42.04050	0.00000	3.1868	
1.7457	42.40967	41.68900	0.00000	3.4512	
2.1821	42.66833	41.33750	0.00000	3.7173	
2.6185	42.92700	40.98600	0.00000	3.9819	

Structure: C | Sub-structure: C10

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	

Vertical Offset 1

0.0	42.92700	40.98600	0.00000	3.9819	
0.41162	42.59550	40.74200	0.00000	3.9794	
0.82323	42.26400	40.49800	0.00000	3.9768	

Structure: C | Sub-structure: C11

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	

Vertical Offset 1

0.0	42.26400	40.49800	0.00000	3.9768	
0.49410	42.55680	40.10000	0.00000	4.2704	
0.98820	42.84960	39.70200	0.00000	4.5521	
1.4823	43.14240	39.30400	0.00000	4.8158	
1.9764	43.43520	38.90600	0.00000	5.0545	
2.4705	43.72800	38.50800	0.00000	5.2609	
2.9646	44.02080	38.11000	0.00000	5.4270	
3.4587	44.31360	37.71200	0.00000	5.5443	
3.9528	44.60640	37.31400	0.00000	5.6035	
4.4469	44.89920	36.91600	0.00000	5.5949	
4.9410	45.19200	36.51800	0.00000	5.5082	

Structure: C | Sub-structure: C12

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	

Vertical Offset 1

0.0	45.19200	36.51800	0.00000	5.5082	
0.48113	44.80478	36.23243	0.00000	5.5093	
0.96226	44.41757	35.94687	0.00000	5.5105	
1.4434	44.03035	35.66130	0.00000	5.5117	
1.9245	43.64313	35.37574	0.00000	5.5128	
2.4056	43.25591	35.09017	0.00000	5.5140	
2.8868	42.86870	34.80461	0.00000	5.5151	
3.3679	42.48148	34.51904	0.00000	5.5162	
3.8490	42.09426	34.23348	0.00000	5.5174	
4.3302	41.70704	33.94791	0.00000	5.5185	
4.8113	41.31983	33.66235	0.00000	5.5196	
5.2924	40.93261	33.37678	0.00000	5.5207	
5.7735	40.54539	33.09122	0.00000	5.5218	
6.2547	40.15817	32.80565	0.00000	5.5229	
6.7358	39.77096	32.52009	0.00000	5.5239	
7.2169	39.38374	32.23452	0.00000	5.5250	
7.6981	38.99652	31.94896	0.00000	5.5261	
8.1792	38.60930	31.66339	0.00000	5.5271	
8.6603	38.22209	31.37783	0.00000	5.5282	
9.1414	37.83487	31.09226	0.00000	5.5292	
9.6226	37.44765	30.80670	0.00000	5.5303	
10.1037	37.06043	30.52113	0.00000	5.5313	
10.5848	36.67322	30.23557	0.00000	5.5323	
11.066	36.28600	29.95000	0.00000	5.5333	

Structure: D | Sub-structure: D1

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	

Vertical Offset 1

0.0	27.55900	34.95000	0.00000	1.2583	
0.48439	27.27278	35.24078	0.00000	1.0993	
0.96877	26.98656	35.63156	0.00000	0.95337	
1.4532	26.70033	36.02233	0.00000	0.81985	
1.9375	26.41411	36.41311	0.00000	0.69761	
2.4219	26.12789	36.80389	0.00000	0.58499	
2.9063	25.84167	37.19467	0.00000	0.47973	
3.3907	25.55544	37.58544	0.00000	0.37904	
3.8751	25.26922	37.97622	0.00000	0.27957	
4.3595	24.98300	38.36700	0.00000	0.17746	

Structure: D | Sub-structure: D2

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	

Vertical Offset 1

0.0	24.98300	38.36700	0.00000	0.17746	
0.49046	24.58738	38.07712	0.00000	0.15166	
0.98091	24.19175	37.78725	0.00000	0.12111	
1.4714	23.79613	37.49737	0.00000	0.091751	
1.9618	23.40050	37.20750	0.00000	0.057476	
2.4523	23.00488	36.91763	0.00000	0.020048	
2.9427	22.60925	36.62775	0.00000	0.0	
3.4332	22.21363	36.33788	0.00000	0.0	
3.9236	21.81800	36.04800	0.00000	0.0	



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Dist. Coordinates Displacements
 [m] x y z z
 [m] [m] [m] [m] [mm]

Structure: D | Sub-structure: D3

Dist. Coordinates Displacements
 [m] x y z z
 [m] [m] [m] [m] [mm]

Vertical Offset 1
 0.0 21.81800 36.04800 0.00000 0.0
 0.47627 21.54300 36.43686 0.00000 0.0
 0.95254 21.26800 36.82571 0.00000 0.0
 1.42888 20.99300 37.21457 0.00000 0.0
 1.9051 20.71800 37.60343 0.00000 0.0
 2.3814 20.44300 37.99229 0.00000 0.0
 2.8576 20.16800 38.38114 0.00000 0.0
 3.3339 19.89300 38.77000 0.00000 0.0

Structure: D | Sub-structure: D4

Dist. Coordinates Displacements
 [m] x y z z
 [m] [m] [m] [m] [mm]

Vertical Offset 1
 0.0 19.89300 38.77000 0.00000 0.0
 0.48525 20.28885 39.05485 0.00000 0.0
 0.97050 20.67870 39.33970 0.00000 0.0
 1.4558 21.07155 39.62455 0.00000 0.0
 1.9410 21.46439 39.90939 0.00000 0.0
 2.4263 21.85724 40.19424 0.00000 0.0
 2.9115 22.25009 40.47909 0.00000 0.0
 3.3968 22.64294 40.76394 0.00000 0.0
 3.8820 23.03579 41.04879 0.00000 0.0
 4.3673 23.42864 41.33364 0.00000 0.0
 4.8525 23.82148 41.61848 0.00000 0.0
 5.3378 24.21433 41.90333 0.00000 0.0
 5.8230 24.60718 42.18818 0.00000 0.0
 6.3083 25.00003 42.47303 0.00000 0.0
 6.7935 25.39288 42.75788 0.00000 0.0
 7.2788 25.78573 43.04273 0.00000 0.0
 7.7640 26.17858 43.32758 0.00000 0.0
 8.2493 26.57142 43.61242 0.00000 0.0
 8.7345 26.96427 43.89727 0.00000 0.0
 9.2198 27.35712 44.18212 0.00000 0.0
 9.7050 27.74997 44.46697 0.00000 0.0
 10.1902 28.14282 44.75182 0.00000 0.0
 10.6754 28.53567 45.03667 0.00000 0.0
 11.1607 28.92852 45.32152 0.00000 0.0
 11.6459 29.32136 45.60636 0.00000 0.0
 12.1311 29.71421 45.89121 0.00000 0.0
 12.6163 30.10706 46.17606 0.00000 0.0
 13.1015 30.49991 46.46091 0.00000 0.0
 13.5868 30.89276 46.74576 0.00000 0.0
 14.0720 31.28561 47.03061 0.00000 0.0
 14.5572 31.67845 47.31545 0.00000 0.0
 15.0424 32.07130 47.60030 0.00000 0.0
 15.5277 32.46415 47.88515 0.00000 0.0
 16.0129 32.85700 48.17000 0.00000 0.0

Structure: D | Sub-structure: D5

Dist. Coordinates Displacements
 [m] x y z z
 [m] [m] [m] [m] [mm]

Vertical Offset 1
 0.0 32.85700 48.17000 0.00000 0.0
 0.44175 33.11971 47.81486 0.00000 0.0
 0.88350 33.38243 47.45971 0.00000 0.0
 1.3253 33.64514 47.10457 0.00000 0.0
 1.7670 33.90786 46.74943 0.00000 0.0
 2.2088 34.17057 46.39429 0.00000 0.032452
 2.6505 34.43329 46.03914 0.00000 0.14781
 3.0923 34.69600 45.68400 0.00000 0.25615

Structure: D | Sub-structure: D6

Dist. Coordinates Displacements
 [m] x y z z
 [m] [m] [m] [m] [mm]

Vertical Offset 1
 0.0 34.69600 45.68400 0.00000 0.25615
 0.38681 34.38500 45.45400 0.00000 0.25540
 0.77362 34.07400 45.22400 0.00000 0.25466
 1.1604 33.76300 44.99400 0.00000 0.25391

Structure: D | Sub-structure: D7

Dist. Coordinates Displacements
 [m] x y z z
 [m] [m] [m] [m] [mm]

Vertical Offset 1
 0.0 33.76300 44.99400 0.00000 0.25391
 0.45636 34.03370 44.62660 0.00000 0.36255
 0.91271 34.30440 44.25920 0.00000 0.47148
 1.3691 34.57510 43.89180 0.00000 0.58406
 1.8254 34.84580 43.52440 0.00000 0.70323
 2.2818 35.11650 43.15700 0.00000 0.83149
 2.7381 35.38720 42.78960 0.00000 0.97090
 3.1945 35.65790 42.42220 0.00000 1.1231
 3.6509 35.92860 42.05480 0.00000 1.2893
 4.1072 36.19930 41.68740 0.00000 1.4703
 4.5636 36.47000 41.32000 0.00000 1.6665

Structure: D | Sub-structure: D8

Dist. Coordinates Displacements
 [m] x y z z
 [m] [m] [m] [m] [mm]

Vertical Offset 1
 0.0 36.47000 41.32000 0.00000 1.6665
 0.47879 36.08257 41.03870 0.00000 1.6629
 0.95758 35.69513 40.75739 0.00000 1.6593
 1.4364 35.30770 40.47609 0.00000 1.6557
 1.9152 34.92026 40.19478 0.00000 1.6521
 2.3939 34.53283 39.91348 0.00000 1.6486
 2.8727 34.14539 39.63217 0.00000 1.6450
 3.3515 33.75796 39.35087 0.00000 1.6415
 3.8303 33.37052 39.06957 0.00000 1.6379
 4.3091 32.98309 38.78826 0.00000 1.6344
 4.7879 32.59565 38.50696 0.00000 1.6308
 5.2667 32.20822 38.22565 0.00000 1.6273
 5.7455 31.82078 37.94435 0.00000 1.6237
 6.2242 31.43335 37.66304 0.00000 1.6202
 6.7030 31.04591 37.38174 0.00000 1.6167
 7.1818 30.65848 37.10043 0.00000 1.6132
 7.6606 30.27104 36.81913 0.00000 1.6097
 8.1394 29.88361 36.53783 0.00000 1.6062
 8.6182 29.49617 36.25652 0.00000 1.5669
 9.0970 29.10874 35.97522 0.00000 1.5190
 9.5758 28.72130 35.69391 0.00000 1.4633
 10.0546 28.33387 35.41261 0.00000 1.4006
 10.5334 27.94643 35.13130 0.00000 1.3320



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Dist.	Coordinates			Displacements	
	x [m]	y [m]	z [m]	z [mm]	
11.012	27.55900	34.85000	0.00000	1.2583	

Specific Building Damage Results - All Segments

Structure: A | Sub-structure: A1

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0		[m]	[m]		[%]	[%]	[%]			[m]	
	1	0.0	2.9765	Hogging	679.78E-6	0.039032	0.039287	-707.22E-6	-428.06E-6	21309.	0 (Negligible)
	2	2.9765	1.3275	Sagging	765.52E-6	0.070772	0.071030	-707.22E-6	-428.06E-6	24208.	1 (Very Slight)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: A | Sub-structure: A2

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0		[m]	[m]		[%]	[%]	[%]			[m]	
	1	0.0	2.5130	Sagging	0.0	60.661E-6	60.976E-6	0.0	-11.024E-6	62.875E+6	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: A | Sub-structure: A3

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0		[m]	[m]		[%]	[%]	[%]			[m]	
	1	0.0	3.7820	Sagging	0.0055329	0.070772	0.075642	-707.22E-6	-371.15E-6	3330.0	2 (Slight)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: A | Sub-structure: A4

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0		[m]	[m]		[%]	[%]	[%]			[m]	
	1	0.0	3.8980	Sagging	2.3210E-6	9.2819E-6	11.408E-6	0.0	-1.1527E-6	20.736E+6	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: A | Sub-structure: A5

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0		[m]	[m]		[%]	[%]	[%]			[m]	
	1	0.0	5.3094	Sagging	0.0050231	0.069944	0.075639	-707.46E-6	421.10E-6	3463.5	2 (Slight)
	2	5.3094	2.6796	Hogging	621.08E-6	0.038781	0.038992	-564.56E-6	421.10E-6	22891.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: A | Sub-structure: A6

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0		[m]	[m]		[%]	[%]	[%]			[m]	
	1	0.0	6.3580	Hogging	1.6235E-6	14.493E-6	15.700E-6	0.0	7.0605E-6	47.668E+6	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B1

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0		[m]	[m]		[%]	[%]	[%]			[m]	
All settlements are less than the Settlement Trough Limit Sensitivity.											

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B2

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0		[m]	[m]		[%]	[%]	[%]			[m]	
All settlements are less than the Settlement Trough Limit Sensitivity.											

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B3

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0		[m]	[m]		[%]	[%]	[%]			[m]	
All settlements are less than the Settlement Trough Limit Sensitivity.											

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B4

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0		[m]	[m]		[%]	[%]	[%]			[m]	
All settlements are less than the Settlement Trough Limit Sensitivity.											

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B5



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	08-Nov-2017	

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] 3.4271	[m] 2.9369	Hogging	[%] 0.0022243	[%] 0.037499	[%] 0.038324	-374.85E-6	-207.11E-6	[m] 13788.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B6

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] 0.0	[m] 1.0680	Hogging	[%] 0.0	[%] 0.0	[%] 0.0	0.0	-1.0917E-6	[m] 583.71E+6	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B7

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] 0.0	[m] 1.1000	Hogging	[%] 872.13E-6	[%] 0.037492	[%] 0.037615	-374.78E-6	-290.72E-6	[m] 13791.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B8

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] 0.0	[m] 8.3559	Hogging	[%] 492.19E-6	[%] -0.0013606	[%] 382.05E-6	181.60E-6	-73.542E-6	[m] 14954.	0 (Negligible)
	2	[m] 8.3559	[m] 2.2581	Sagging	[%] 0.0010109	[%] -0.016011	[%] 0.0032517	181.60E-6	-60.555E-6	[m] 27692.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B9

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] 0.0	[m] 2.5960	Hogging	[%] 0.0023289	[%] 0.027267	[%] 0.028033	-291.14E-6	303.76E-6	[m] 13452.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B10

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] 0.0	[m] 1.7410	Sagging	[%] 280.40E-6	[%] -0.0062433	[%] 0.0012587	68.805E-6	24.461E-6	[m] 77021.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B11

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] 0.0	[m] 1.9166	Hogging	[%] 0.0010408	[%] 0.034850	[%] 0.035104	-353.31E-6	118.39E-6	[m] 17396.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B12

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	All settlements are less than the Settlement Trough Limit Sensitivity.										

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B13

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	All settlements are less than the Settlement Trough Limit Sensitivity.										

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B14

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	All settlements are less than the Settlement Trough Limit Sensitivity.										

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B15

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	All settlements are less than the Settlement Trough Limit Sensitivity.										

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.



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Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
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Structure: B | Sub-structure: B16

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
Calculations		[m]	[m]	[%]	[%]	[%]			[m]	
0.0										

All settlements are less than the Settlement Trough Limit Sensitivity.
Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B17

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
Calculations		[m]	[m]	[%]	[%]	[%]			[m]	
0.0										

All settlements are less than the Settlement Trough Limit Sensitivity.
Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B18

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
Calculations		[m]	[m]	[%]	[%]	[%]			[m]	
0.0										

All settlements are less than the Settlement Trough Limit Sensitivity.
Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B19

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
Calculations		[m]	[m]	[%]	[%]	[%]			[m]	
0.0										

All settlements are less than the Settlement Trough Limit Sensitivity.
Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B20

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
Calculations		[m]	[m]	[%]	[%]	[%]			[m]	
0.0										

All settlements are less than the Settlement Trough Limit Sensitivity.
Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C1

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category	
Calculations		[m]	[m]	[%]	[%]	[%]			[m]		
0.0	1	0.0	4.1060	Sagging	0.0099207	0.069600	0.078925	-760.70E-6	555.29E-6	3091.0	2 (Slight)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C2

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category	
Calculations		[m]	[m]	[%]	[%]	[%]			[m]		
0.0	1	0.0	0.24381	Hogging	0.0	66.820E-6	66.841E-6	0.0	18.586E-6	10152.	0 (Negligible)
	2	0.24381	3.1712	Sagging	0.0061897	-0.027114	0.0064177	412.99E-6	400.05E-6	4062.1	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C3

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category	
Calculations		[m]	[m]	[%]	[%]	[%]			[m]		
0.0	1	0.0	1.8434	Sagging	821.00E-6	0.029032	0.029411	-341.27E-6	485.91E-6	16039.	0 (Negligible)
	2	1.8434	1.0926	Hogging	252.39E-6	0.036964	0.036999	-382.02E-6	485.91E-6	41826.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C4

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category	
Calculations		[m]	[m]	[%]	[%]	[%]			[m]		
0.0	1	0.0	2.4230	Sagging	0.0020977	-0.017636	0.0037171	201.45E-6	-217.31E-6	5907.9	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C5

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category	
Calculations		[m]	[m]	[%]	[%]	[%]			[m]		
0.0	1	0.0	2.1100	Hogging	242.87E-6	0.0092863	0.0093515	-93.523E-6	225.95E-6	97019.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C6

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
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Calculations Curve [m] 0.0 1 0.0 6.0330 Hogging [m] 0.0 6.1482E-6 6.5446E-6 [m] 0.0 -5.4060E-6 141.77E+6 0 (Negligible)

Structure: C | Sub-structure: C7

Vertical Offset from Line for Vertical Movement Calculations Segment Start Length Curvature Deflection Ratio Average Horizontal Strain Max Tensile Strain Max Gradient of Horizontal Displacement Curve Max Gradient of Vertical Displacement Curve Min Radius of Curvature Damage Category

Structure: C | Sub-structure: C8

Vertical Offset from Line for Vertical Movement Calculations Segment Start Length Curvature Deflection Ratio Average Horizontal Strain Max Tensile Strain Max Gradient of Horizontal Displacement Curve Max Gradient of Vertical Displacement Curve Min Radius of Curvature Damage Category

Structure: C | Sub-structure: C9

Vertical Offset from Line for Vertical Movement Calculations Segment Start Length Curvature Deflection Ratio Average Horizontal Strain Max Tensile Strain Max Gradient of Horizontal Displacement Curve Max Gradient of Vertical Displacement Curve Min Radius of Curvature Damage Category

Structure: C | Sub-structure: C10

Vertical Offset from Line for Vertical Movement Calculations Segment Start Length Curvature Deflection Ratio Average Horizontal Strain Max Tensile Strain Max Gradient of Horizontal Displacement Curve Max Gradient of Vertical Displacement Curve Min Radius of Curvature Damage Category

Structure: C | Sub-structure: C11

Vertical Offset from Line for Vertical Movement Calculations Segment Start Length Curvature Deflection Ratio Average Horizontal Strain Max Tensile Strain Max Gradient of Horizontal Displacement Curve Max Gradient of Vertical Displacement Curve Min Radius of Curvature Damage Category

Structure: C | Sub-structure: C12

Vertical Offset from Line for Vertical Movement Calculations Segment Start Length Curvature Deflection Ratio Average Horizontal Strain Max Tensile Strain Max Gradient of Horizontal Displacement Curve Max Gradient of Vertical Displacement Curve Min Radius of Curvature Damage Category

Structure: D | Sub-structure: D1

Vertical Offset from Line for Vertical Movement Calculations Segment Start Length Curvature Deflection Ratio Average Horizontal Strain Max Tensile Strain Max Gradient of Horizontal Displacement Curve Max Gradient of Vertical Displacement Curve Min Radius of Curvature Damage Category

Structure: D | Sub-structure: D2

Vertical Offset from Line for Vertical Movement Calculations Segment Start Length Curvature Deflection Ratio Average Horizontal Strain Max Tensile Strain Max Gradient of Horizontal Displacement Curve Max Gradient of Vertical Displacement Curve Min Radius of Curvature Damage Category

Structure: D | Sub-structure: D3

Vertical Offset from Line for Vertical Movement Calculations Segment Start Length Curvature Deflection Ratio Average Horizontal Strain Max Tensile Strain Max Gradient of Horizontal Displacement Curve Max Gradient of Vertical Displacement Curve Min Radius of Curvature Damage Category

Structure: D | Sub-structure: D4

Vertical Offset from Line for Vertical Movement Calculations Segment Start Length Curvature Deflection Ratio Average Horizontal Strain Max Tensile Strain Max Gradient of Horizontal Displacement Curve Max Gradient of Vertical Displacement Curve Min Radius of Curvature Damage Category



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Vertical Offset from Line for Vertical Movement Segment Start Length Curvature Deflection Ratio Average Horizontal Strain Max Tensile Strain Max Gradient of Horizontal Displacement Max Gradient of Vertical Displacement Min Radius of Curvature Damage Category

Structure: D | Sub-structure: D5

Table with 11 columns: Vertical Offset from Line for Vertical Movement, Segment, Start Length, Curvature, Deflection Ratio, Average Horizontal Strain, Max Tensile Strain, Max Gradient of Horizontal Displacement, Max Gradient of Vertical Displacement, Min Radius of Curvature, Damage Category. Includes calculations for segments 1 and 2.

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: D | Sub-structure: D6

Table with 11 columns: Vertical Offset from Line for Vertical Movement, Segment, Start Length, Curvature, Deflection Ratio, Average Horizontal Strain, Max Tensile Strain, Max Gradient of Horizontal Displacement, Max Gradient of Vertical Displacement, Min Radius of Curvature, Damage Category. Includes calculations for segments 1 and 2.

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: D | Sub-structure: D7

Table with 11 columns: Vertical Offset from Line for Vertical Movement, Segment, Start Length, Curvature, Deflection Ratio, Average Horizontal Strain, Max Tensile Strain, Max Gradient of Horizontal Displacement, Max Gradient of Vertical Displacement, Min Radius of Curvature, Damage Category. Includes calculations for segments 1 and 2.

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: D | Sub-structure: D8

Table with 11 columns: Vertical Offset from Line for Vertical Movement, Segment, Start Length, Curvature, Deflection Ratio, Average Horizontal Strain, Max Tensile Strain, Max Gradient of Horizontal Displacement, Max Gradient of Vertical Displacement, Min Radius of Curvature, Damage Category. Includes calculations for segments 1 and 2.

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Specific Building Damage Results - Critical Values for All Segments within Each Sub-Structure

Structure: A | Sub-structure: A1

Table with 11 columns: Vertical Offset from Line for Vertical Movement, Deflection Ratio, Average Horizontal Strain, Max Slope, Max Settlement, Max Tensile Strain, Max Gradient of Horizontal Displacement, Max Gradient of Vertical Displacement, Min Radius of Curvature (Hogging), Min Radius of Curvature (Sagging), Damage Category. Includes calculations for segment 1.

Structure: A | Sub-structure: A2

Table with 11 columns: Vertical Offset from Line for Vertical Movement, Deflection Ratio, Average Horizontal Strain, Max Slope, Max Settlement, Max Tensile Strain, Max Gradient of Horizontal Displacement, Max Gradient of Vertical Displacement, Min Radius of Curvature (Hogging), Min Radius of Curvature (Sagging), Damage Category. Includes calculations for segment 1.

Structure: A | Sub-structure: A3

Table with 11 columns: Vertical Offset from Line for Vertical Movement, Deflection Ratio, Average Horizontal Strain, Max Slope, Max Settlement, Max Tensile Strain, Max Gradient of Horizontal Displacement, Max Gradient of Vertical Displacement, Min Radius of Curvature (Hogging), Min Radius of Curvature (Sagging), Damage Category. Includes calculations for segment 1.

Structure: A | Sub-structure: A4

Table with 11 columns: Vertical Offset from Line for Vertical Movement, Deflection Ratio, Average Horizontal Strain, Max Slope, Max Settlement, Max Tensile Strain, Max Gradient of Horizontal Displacement, Max Gradient of Vertical Displacement, Min Radius of Curvature (Hogging), Min Radius of Curvature (Sagging), Damage Category. Includes calculations for segment 1.

Structure: A | Sub-structure: A5

Table with 11 columns: Vertical Offset from Line for Vertical Movement, Deflection Ratio, Average Horizontal Strain, Max Slope, Max Settlement, Max Tensile Strain, Max Gradient of Horizontal Displacement, Max Gradient of Vertical Displacement, Min Radius of Curvature (Hogging), Min Radius of Curvature (Sagging), Damage Category. Includes calculations for segment 1.

Structure: A | Sub-structure: A6

Table with 11 columns: Vertical Offset from Line for Vertical Movement, Deflection Ratio, Average Horizontal Strain, Max Slope, Max Settlement, Max Tensile Strain, Max Gradient of Horizontal Displacement, Max Gradient of Vertical Displacement, Min Radius of Curvature (Hogging), Min Radius of Curvature (Sagging), Damage Category. Includes calculations for segment 1.



A-SQUARED STUDIO

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Vertical Offset from Line for Vertical	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Structure: B Sub-structure: B1										
Vertical Offset from Line for Vertical Movement Calculations	[m]	[%]	[%]	[mm]	[%]	[m]	[m]	[m]	[m]	
Structure: B Sub-structure: B2										
Vertical Offset from Line for Vertical Movement Calculations	[m]	[%]	[%]	[mm]	[%]	[m]	[m]	[m]	[m]	
Structure: B Sub-structure: B3										
Vertical Offset from Line for Vertical Movement Calculations	[m]	[%]	[%]	[mm]	[%]	[m]	[m]	[m]	[m]	
Structure: B Sub-structure: B4										
Vertical Offset from Line for Vertical Movement Calculations	[m]	[%]	[%]	[mm]	[%]	[m]	[m]	[m]	[m]	
Structure: B Sub-structure: B5										
Vertical Offset from Line for Vertical Movement Calculations	[m]	[%]	[%]	[mm]	[%]	[m]	[m]	[m]	[m]	
0.0	0.0022243	0.037499	-207.11E-6	0.48845	0.038324	-374.85E-6	-207.11E-6	13788.	[m]	- 0 (Negligible)
Structure: B Sub-structure: B6										
Vertical Offset from Line for Vertical Movement Calculations	[m]	[%]	[%]	[mm]	[%]	[m]	[m]	[m]	[m]	
0.0	0.0	0.0	-1.0917E-6	0.48975	0.0	0.0	-1.0917E-6	583.71E+6	[m]	- 0 (Negligible)
Structure: B Sub-structure: B7										
Vertical Offset from Line for Vertical Movement Calculations	[m]	[%]	[%]	[mm]	[%]	[m]	[m]	[m]	[m]	
0.0	872.13E-6	0.037492	-290.72E-6	0.78112	0.037615	-374.78E-6	-290.72E-6	13791.	[m]	- 0 (Negligible)
Structure: B Sub-structure: B8										
Vertical Offset from Line for Vertical Movement Calculations	[m]	[%]	[%]	[mm]	[%]	[m]	[m]	[m]	[m]	
0.0	0.0010109	-0.016011	-73.542E-6	0.88416	0.0032517	181.60E-6	-73.542E-6	14954.	27692.0	0 (Negligible)
Structure: B Sub-structure: B9										
Vertical Offset from Line for Vertical Movement Calculations	[m]	[%]	[%]	[mm]	[%]	[m]	[m]	[m]	[m]	
0.0	0.0023289	0.027267	303.76E-6	0.88001	0.028033	-291.14E-6	303.76E-6	13452.	[m]	- 0 (Negligible)
Structure: B Sub-structure: B10										
Vertical Offset from Line for Vertical Movement Calculations	[m]	[%]	[%]	[mm]	[%]	[m]	[m]	[m]	[m]	
0.0	280.40E-6	-0.0062433	24.461E-6	0.29605	0.0012587	68.805E-6	24.461E-6	[m]	-	77021.0 (Negligible)
Structure: B Sub-structure: B11										
Vertical Offset from Line for Vertical Movement Calculations	[m]	[%]	[%]	[mm]	[%]	[m]	[m]	[m]	[m]	
0.0	0.0010408	0.034850	118.39E-6	0.26813	0.035104	-353.31E-6	118.39E-6	17396.	[m]	- 0 (Negligible)
Structure: B Sub-structure: B12										
Vertical Offset from Line for Vertical Movement	[m]	[%]	[%]	[mm]	[%]	[m]	[m]	[m]	[m]	



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Calculations	[%]	[%]	[mm]	[%]	[m]	[m]				
Structure: B Sub-structure: B13										
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]	[mm]	[%]	[mm]	[%]	[m]	[m]	[m]	[m]
Structure: B Sub-structure: B14										
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]	[mm]	[%]	[mm]	[%]	[m]	[m]	[m]	[m]
Structure: B Sub-structure: B15										
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]	[mm]	[%]	[mm]	[%]	[m]	[m]	[m]	[m]
Structure: B Sub-structure: B16										
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]	[mm]	[%]	[mm]	[%]	[m]	[m]	[m]	[m]
Structure: B Sub-structure: B17										
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]	[mm]	[%]	[mm]	[%]	[m]	[m]	[m]	[m]
Structure: B Sub-structure: B18										
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]	[mm]	[%]	[mm]	[%]	[m]	[m]	[m]	[m]
Structure: B Sub-structure: B19										
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]	[mm]	[%]	[mm]	[%]	[m]	[m]	[m]	[m]
Structure: B Sub-structure: B20										
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]	[mm]	[%]	[mm]	[%]	[m]	[m]	[m]	[m]
Structure: C Sub-structure: C1										
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]	[mm]	[%]	[mm]	[%]	[m]	[m]	[m]	[m]
0.0	0.0099207	0.069600	555.29E-6	5.6019	0.078925	-760.70E-6	555.29E-6	[m]	-	3091.0 2 (Slight)
Structure: C Sub-structure: C2										
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]	[mm]	[%]	[mm]	[%]	[m]	[m]	[m]	[m]
0.0	0.0061897	-0.027114	400.05E-6	4.4074	0.0064177	412.99E-6	400.05E-6	10152.	4062.1 0	(Negligible)
Structure: C Sub-structure: C3										
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]	[mm]	[%]	[mm]	[%]	[m]	[m]	[m]	[m]
0.0	821.00E-6	0.036964	485.91E-6	3.5895	0.036999	-382.02E-6	485.91E-6	41826.	16039. 0	(Negligible)
Structure: C Sub-structure: C4										
Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category



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Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Calculations										
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0020977	-0.017636	-217.31E-6	2.5940	0.0037171	201.45E-6	-217.31E-6		5907.9	0 (Negligible)
Structure: C Sub-structure: C5										
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	242.87E-6	0.0092863	225.95E-6	2.5940	0.0093515	-93.523E-6	225.95E-6	97019.		- 0 (Negligible)
Structure: C Sub-structure: C6										
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0	6.1482E-6	-5.4060E-6	2.1661	6.5446E-6	0.0	-5.4060E-6	141.77E+6		- 0 (Negligible)
Structure: C Sub-structure: C7										
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0	0.056654	-531.25E-6	2.4016	0.056654	-566.22E-6	-531.25E-6			- 1 (Very Slight)
Structure: C Sub-structure: C8										
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0	6.0466E-6	-5.6420E-6	2.4298	6.2585E-6	0.0	-5.6420E-6	165.37E+6		- 0 (Negligible)
Structure: C Sub-structure: C9										
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	817.88E-6	0.056835	-609.32E-6	3.9816	0.060843	-610.04E-6	-609.32E-6	20145.	85388.	1 (Very Slight)
Structure: C Sub-structure: C10										
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0	6.5044E-6	6.1932E-6	3.9819	6.5446E-6	0.0	6.1932E-6		- 368.65E+6	0 (Negligible)
Structure: C Sub-structure: C11										
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.010737	0.068699	-593.83E-6	5.6028	0.080287	-764.30E-6	-593.83E-6		3028.2	2 (Slight)
Structure: C Sub-structure: C12										
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	4.3493E-6	6.7646E-6	-2.4425E-6	5.5333	13.340E-6	0.0	-2.4425E-6		- 31.354E+6	0 (Negligible)
Structure: D Sub-structure: D1										
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0018336	0.033608	328.12E-6	1.2583	0.034431	-424.81E-6	328.12E-6	17809.	64655.	0 (Negligible)
Structure: D Sub-structure: D2										
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	139.57E-6	334.75E-6	63.930E-6	0.17746	377.98E-6	-11.623E-6	63.930E-6		85308.	0 (Negligible)
Structure: D Sub-structure: D3										
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	



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Vertical Offset from Line for Vertical	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Structure: D Sub-structure: D4										
Calculations	[%]	[%]	[mm]	[mm]	[%]	[mm]	[mm]	[m]	[m]	
0.0	0.0	0.037498	-261.03E-6	0.25608	0.037498	-374.84E-6	-261.03E-6	12633.	6623.1	0 (Negligible)
Structure: D Sub-structure: D5										
Calculations	[%]	[%]	[mm]	[mm]	[%]	[mm]	[mm]	[m]	[m]	
0.0	0.0	0.037498	-261.03E-6	0.25608	0.037498	-374.84E-6	-261.03E-6	12633.	6623.1	0 (Negligible)
Structure: D Sub-structure: D6										
Calculations	[%]	[%]	[mm]	[mm]	[%]	[mm]	[mm]	[m]	[m]	
0.0	0.0	0.037498	-261.03E-6	0.25608	0.037498	-374.84E-6	-261.03E-6	12633.	6623.1	0 (Negligible)
Structure: D Sub-structure: D7										
Calculations	[%]	[%]	[mm]	[mm]	[%]	[mm]	[mm]	[m]	[m]	
0.0	0.0028538	0.043746	-429.54E-6	1.6662	0.045307	-554.16E-6	-429.54E-6	13687.	-	0 (Negligible)
Structure: D Sub-structure: D8										
Calculations	[%]	[%]	[mm]	[mm]	[%]	[mm]	[mm]	[m]	[m]	
0.0	0.0024876	-0.0072416	153.76E-6	1.6665	0.0019786	118.56E-6	153.76E-6	48.792E+6	11534.	0 (Negligible)

Specific Building Damage Results - Critical Segments within Each Structure

Structure Name	Parameter	Critical Sub-Structure	Critical Segment	Start	End	Curvature	Max Slope	Max Settlement	Max Tensile Strain	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
A	Max Slope	A1	1	0.0	2.9765	Hogging	428.06E-6	2.2277	0.039287	21309.	-	0 (Negligible)
	Max Settlement	A3	1	0.0	3.7820	Sagging	371.15E-6	3.7338	0.075642	-	3330.0	2 (Slight)
	Max Tensile Strain	A3	1	0.0	3.7820	Sagging	371.15E-6	3.7338	0.075642	-	3330.0	2 (Slight)
	Min Radius of Curvature (Hogging)	A1	1	0.0	2.9765	Hogging	428.06E-6	2.2277	0.039287	21309.	-	0 (Negligible)
	Min Radius of Curvature (Sagging)	A3	1	0.0	3.7820	Sagging	371.15E-6	3.7338	0.075642	-	3330.0	2 (Slight)
	B	Max Slope	B9	1	0.0	2.5960	Hogging	303.76E-6	0.88001	0.028033	13452.	-
Max Settlement		B8	2	8.3559	10.614	Sagging	60.555E-6	0.88416	0.0032517	-	27692.0	0 (Negligible)
Max Tensile Strain		B5	1	3.4271	6.3640	Hogging	207.11E-6	0.48845	0.038324	13788.	-	0 (Negligible)
Min Radius of Curvature (Hogging)		B9	1	0.0	2.5960	Hogging	303.76E-6	0.88001	0.028033	13452.	-	0 (Negligible)
C	Min Radius of Curvature (Sagging)	B8	2	8.3559	10.614	Sagging	60.555E-6	0.88416	0.0032517	-	27692.0	0 (Negligible)
	Max Slope	C9	1	0.0	2.0541	Hogging	609.32E-6	3.6393	0.058732	20145.	-	1 (Very Slight)
	Max Settlement	C11	1	0.0	4.9410	Sagging	593.83E-6	5.6028	0.080287	-	3028.2	2 (Slight)
	Max Tensile Strain	C11	1	0.0	4.9410	Sagging	593.83E-6	5.6028	0.080287	-	3028.2	2 (Slight)
	Min Radius of Curvature (Hogging)	C2	1	0.0	0.24381	Hogging	18.586E-6	4.4074	66.841E-6	10152.	-	0 (Negligible)
D	Min Radius of Curvature (Sagging)	C11	1	0.0	4.9410	Sagging	593.83E-6	5.6028	0.080287	-	3028.2	2 (Slight)
	Max Slope	D7	2	0.14812	4.5630	Hogging	429.54E-6	1.6662	0.045307	13687.	-	0 (Negligible)
	Max Settlement	D8	1	0.0	6.8230	Hogging	7.4881E-6	1.6665	17.059E-6	48.792E+6	-	0 (Negligible)
	Max Tensile Strain	D7	2	0.14812	4.5630	Hogging	429.54E-6	1.6662	0.045307	13687.	-	0 (Negligible)
	Min Radius of Curvature (Hogging)	D5	1	2.6505	2.8024	Hogging	261.03E-6	0.18505	0.037498	12633.	-	0 (Negligible)
	Min Radius of Curvature (Sagging)	D5	2	2.8024	3.0920	Sagging	245.16E-6	0.25608	0.037498	-	6623.1	0 (Negligible)

Xdisp Input and Output

Model: CIRIA installation and
excavation - Scaled



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Drg. Ref.

Made by Date 22-Nov-2017 Checked

Problem Type

Problem Type : Tunnelling and Embedded Wall Excavations

Displacement Data

Table with columns: Type, Name, Direction of extrusion, Point/Line/Line for extrusion (First point X, Y, Z, Second point X, Y, Z), No. of intervals across extrusion/line, Extrusion depth, No. of intervals along extrusion, Calculate, Surface type for tunnels. Rows include Line A1 through Line D8 and Grid 1.

Vertical Ground Movement Curves (Excavations)

Curve Name: No vertical ground movement
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Settlement / wall depth or max. excavation depth (z)(%)]
Curve Fitting Method: Polynomial
x Order: 1
y Order: 0
Polynomial: z = 0.0x + 0.0
Coeff. of: -2147483648.E+2147483647
Determination:

Curve Name: Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(b))
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Settlement / wall depth or max. excavation depth (z)(%)]
Curve Fitting Method: Polynomial
x Order: 1
y Order: 0
Polynomial: z = -2.0E-2x + 4.0E-2
Coeff. of: 1.0
Determination:

Curve Name: Installation of planar diaphragm wall in stiff clay (CIRIA 580 Fig. 2.9(b))
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Settlement / wall depth or max. excavation depth (z)(%)]
Curve Fitting Method: Polynomial
x Order: 4
y Order: 0
Polynomial: z = -1.2355E-2x^4 + 3.4814E-2x^3 - 2.8885E-3x^2 - 6.5618E-2x + 4.9987E-2
Coeff. of: 1.0000
Determination:

Curve Name: ExcavHighStiffClay-0.85
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Settlement / wall depth or max. excavation depth (z)(%)]
Curve Fitting Method: Polynomial
x Order: 4
y Order: 0
Polynomial: z = -2.2486E-3x^4 + 2.4220E-2x^3 - 8.5430E-2x^2 + 8.9838E-2x + 3.3142E-2
Coeff. of: 9.9991E-1
Determination:

Horizontal Ground Movement Curves (Excavations)



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Type	Name	Direction of extrusion	Point/Line/Line for extrusion	No. of intervals across extrusion/line	Extrusion depth	No. of intervals along extrusion	Calculate	Surface type for tunnels
Curve Name:	No horizontal ground movement							
Coordinates:	[Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Horizontal movement / wall depth or max. excavation depth (z)](%)							
Curve Fitting Method:	Polynomial							
x Order:	0							
y Order:	0							
Polynomial: z =	0.0							
Coeff. of	-2147483648.E+2147483647							
Determination:								
Curve Name:	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(a))							
Coordinates:	[Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Horizontal movement / wall depth or max. excavation depth (z)](%)							
Curve Fitting Method:	Polynomial							
x Order:	3							
y Order:	0							
Polynomial: z =	-4.2486E-3x ³ + 1.9096E-2x ² - 4.6221E-2x + 4.0729E-2							
Coeff. of	1.0000							
Determination:								
Curve Name:	Installation of planar diaphragm wall in stiff clay (CIRIA 580 Fig. 2.9(a))							
Coordinates:	[Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Horizontal movement / wall depth or max. excavation depth (z)](%)							
Curve Fitting Method:	Polynomial							
x Order:	1							
y Order:	0							
Polynomial: z =	-3.33E-2x + 5.00E-2							
Coeff. of	1.00							
Determination:								
Curve Name:	ExcavHighStiffClay-0.85							
Coordinates:	[Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Horizontal movement / wall depth or max. excavation depth (z)](%)							
Curve Fitting Method:	Linear							

Polygonal Excavations

Excavation Name: InstallContig
Surface level [m]: 0.0
Contribution: Positive
Enabled: Yes

Corner	x	y	Base Level	Stiffened	Previous Side	Next Side
	[m]	[m]	[m]	d	pl p2*	d pl p2*
1	36.252	28.072	-8.0000	No	- -	- -
2	48.423	37.225	-8.0000	No	- -	- -
3	55.142	28.291	-8.0000	No	- -	- -
4	42.970	19.138	-8.0000	No	- -	- -

Side	Corner 1		Corner 2		Ground Movement Curve	
	x	y	x	y	Vertical	Horizontal
1	36.252	28.072	48.423	37.225	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(b))	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(a))
2	48.423	37.225	55.142	28.291	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(b))	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(a))
3	55.142	28.291	42.970	19.138	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(b))	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(a))
4	42.970	19.138	36.252	28.072	No vertical ground movement	No horizontal ground movement

Excavation Name: Excavate
Surface level [m]: 0.0
Contribution: Positive
Enabled: Yes

Corner	x	y	Base Level	Stiffened	Previous Side	Next Side
	[m]	[m]	[m]	d	pl p2*	d pl p2*
1	36.252	28.072	-4.0000	No	- -	- -
2	48.423	37.225	-4.0000	No	- -	- -
3	55.142	28.291	-4.0000	No	- -	- -
4	42.970	19.138	-4.0000	No	- -	- -

Side	Corner 1		Corner 2		Ground Movement Curve	
	x	y	x	y	Vertical	Horizontal
1	36.252	28.072	48.423	37.225	ExcavHighStiffClay-0.85	ExcavHighStiffClay-0.85
2	48.423	37.225	55.142	28.291	ExcavHighStiffClay-0.85	ExcavHighStiffClay-0.85
3	55.142	28.291	42.970	19.138	ExcavHighStiffClay-0.85	ExcavHighStiffClay-0.85
4	42.970	19.138	36.252	28.072	ExcavHighStiffClay-0.85	ExcavHighStiffClay-0.85

Excavation Name: IntallUnderpin
Surface level [m]: 0.0
Contribution: Positive
Enabled: Yes

Corner	x	y	Base Level	Stiffened	Previous Side	Next Side
	[m]	[m]	[m]	d	pl p2*	d pl p2*
1	36.252	28.072	-4.0000	No	- -	- -
2	48.423	37.225	-4.0000	No	- -	- -
3	55.142	28.291	-4.0000	No	- -	- -
4	42.970	19.138	-4.0000	No	- -	- -

Side	Corner 1		Corner 2		Ground Movement Curve	
	x	y	x	y	Vertical	Horizontal
1	36.252	28.072	48.423	37.225	No vertical ground movement	No horizontal ground movement
2	48.423	37.225	55.142	28.291	No vertical ground movement	No horizontal ground movement
3	55.142	28.291	42.970	19.138	No vertical ground movement	No horizontal ground movement
4	42.970	19.138	36.252	28.072	Installation of planar diaphragm wall in stiff clay (CIRIA 580 Fig. 2.9(b))	Installation of planar diaphragm wall in stiff clay (CIRIA 580 Fig. 2.9(a))

Damage Category Strains

Name	0 (Negligible)	1 (Very Slight)	2 (Slight)	3 (Moderate)
Burland Strain Limits	0.0	500.00E-6	750.00E-6	0.0015000



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Made by

Date 22-Nov-2017

Checked

Name 0 (Negligible) 1 (Very Slight) 2 (Slight) 3 (Moderate) 4 (Severe)
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1 (Very Slight) 2 (Slight) 3 (Moderate) 4 (Severe)

Specific Structures - Geometry

Table with columns: Structure Name, Sub-Structure Name, Displacement Line, Start Distance Along Line, End Distance Along Line, Vertical Offsets from Line for Vertical Movement Calculations, Vertical Displacement Limit Sensitivity, Damage Category, Strains, Poisson's Ratio, E/G. Rows A1-A20, B1-B20, C1-C12, D1-D8.

Specific Structures - Bending Parameters

Table with columns: Structure Name, Sub-Structure Name, Height, Default Properties, Hogging (2nd Moment of Area, Distance of Bending Strain from N.A.), Sagging (2nd Moment of Area, Distance of Bending Strain from N.A.). Rows A1-A20, B1-B20, C1-C12, D1-D8.

Building Segment Combinations

Table with columns: Structure Name, Sub-Structure Name, Vertical Offset from Line for Vertical Movement Calculations, Segment Start, Length, Curvature, Combined Segment. Note: No structures have segments combined.

Utility Strain Calculation Options

Neglect beneficial contribution of axial strains : No

Warnings

- 1 Multiple excavations have been specified. The displacements resulting from these excavations are calculated by summing the displacements resulting from each



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Table with columns: Dist., Coordinates (x, y, z), Displacements (Horizontal displacement along the line, Horizontal displacement perpendicular to line). Rows 6-9909 to 7-9896.

Structure: A | Sub-structure: A6

Table with columns: Dist., Coordinates (x, y, z), Displacements (Horizontal displacement along the line, Horizontal displacement perpendicular to line). Rows 0.0 to 6.3588.

Structure: B | Sub-structure: B1

Table with columns: Dist., Coordinates (x, y, z), Displacements (Horizontal displacement along the line, Horizontal displacement perpendicular to line). Rows 0.0 to 3.8976.

Structure: B | Sub-structure: B2

Table with columns: Dist., Coordinates (x, y, z), Displacements (Horizontal displacement along the line, Horizontal displacement perpendicular to line). Rows 0.0 to 0.92249.

Structure: B | Sub-structure: B3

Table with columns: Dist., Coordinates (x, y, z), Displacements (Horizontal displacement along the line, Horizontal displacement perpendicular to line). Rows 0.0 to 5.1609.

Structure: B | Sub-structure: B4

Table with columns: Dist., Coordinates (x, y, z), Displacements (Horizontal displacement along the line, Horizontal displacement perpendicular to line). Rows 0.0 to 1.0818.

Structure: B | Sub-structure: B5

Table with columns: Dist., Coordinates (x, y, z), Displacements (Horizontal displacement along the line, Horizontal displacement perpendicular to line). Rows 0.0 to 6.3647.

Structure: B | Sub-structure: B6

Table with columns: Dist., Coordinates (x, y, z), Displacements (Horizontal displacement along the line, Horizontal displacement perpendicular to line). Rows 0.0 to 1.0684.

Structure: B | Sub-structure: B7

Table with columns: Dist., Coordinates, Displacements



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x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line	
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	
0.0	32.30500	15.44100	0.00000	1.3385	1.0066	1.6746	0.023764
0.36690	32.60133	15.65733	0.00000	1.4320	1.0769	1.7915	0.025423
0.73379	32.89767	15.87367	0.00000	1.5254	1.1472	1.9085	0.027082
1.1007	33.19400	16.09000	0.00000	1.6189	1.2174	2.0254	0.028741

Structure: B | Sub-structure: B8

Dist.	Coordinates			Displacements			
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line	
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	33.19400	16.09000	0.00000	1.6189	1.2174	586.50E-6	-2.0256
0.48246	32.90414	16.47568	0.00000	1.6189	1.2175	586.52E-6	-2.0256
0.96493	32.61427	16.86136	0.00000	1.6190	1.2175	586.53E-6	-2.0257
1.4474	32.32441	17.24705	0.00000	1.6190	1.2175	586.54E-6	-2.0257
1.9299	32.03455	17.63273	0.00000	1.6190	1.2175	586.56E-6	-2.0258
2.4123	31.74468	18.01841	0.00000	1.6191	1.2176	586.57E-6	-2.0258
2.8948	31.45482	18.40409	0.00000	1.6191	1.2176	586.58E-6	-2.0259
3.3772	31.16495	18.78977	0.00000	1.6192	1.2176	586.59E-6	-2.0259
3.8597	30.87509	19.17545	0.00000	1.6192	1.2177	586.61E-6	-2.0259
4.3422	30.58523	19.56114	0.00000	1.6192	1.2177	586.62E-6	-2.0260
4.8246	30.29536	19.94682	0.00000	1.6193	1.2177	586.63E-6	-2.0260
5.3071	30.00550	20.33250	0.00000	1.6193	1.2177	586.65E-6	-2.0261
5.7896	29.71564	20.71818	0.00000	1.6193	1.2178	586.66E-6	-2.0261
6.2720	29.42577	21.10386	0.00000	1.6194	1.2178	586.67E-6	-2.0262
6.7545	29.13591	21.48955	0.00000	1.6194	1.2178	586.68E-6	-2.0262
7.2370	28.84605	21.87523	0.00000	1.6194	1.2178	586.70E-6	-2.0263
7.7194	28.55618	22.26091	0.00000	1.6195	1.2179	586.71E-6	-2.0263
8.2019	28.26632	22.64659	0.00000	1.6122	1.1188	-0.074229	-1.9610
8.6843	27.97645	23.03227	0.00000	1.5985	1.0130	-0.15064	-1.8864
9.1668	27.68659	23.41795	0.00000	1.5786	0.90614	-0.22407	-1.8064
9.6493	27.39673	23.80364	0.00000	1.5525	0.80016	-0.29312	-1.7218
10.1317	27.10686	24.18932	0.00000	1.5203	0.69669	-0.35648	-1.6339
10.614	26.81700	24.57500	0.00000	1.4821	0.59723	-0.41303	-1.5436

Structure: B | Sub-structure: B9

Dist.	Coordinates			Displacements			
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line	
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	26.81700	24.57500	0.00000	1.4821	0.59723	-1.5362	0.43996
0.43274	26.47567	24.30900	0.00000	1.3748	0.58452	-1.4437	0.38401
0.86548	26.13433	24.04300	0.00000	1.2673	0.56617	-1.3476	0.33243
1.2982	25.79300	23.77700	0.00000	1.1597	0.54281	-1.2484	0.28472
1.7310	25.45167	23.51100	0.00000	1.0520	0.51500	-1.1464	0.24044
2.1637	25.11033	23.24500	0.00000	0.94623	0.48044	-1.0417	0.20268
2.5964	24.76900	22.97900	0.00000	0.84455	0.43664	-0.93456	0.17473

Structure: B | Sub-structure: B10

Dist.	Coordinates			Displacements			
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line	
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	24.76900	22.97900	0.00000	0.84455	0.43664	-0.15559	0.93793
0.43530	25.02950	22.63025	0.00000	0.69287	0.48213	0.13519	0.98664
0.87060	25.29000	22.28150	0.00000	0.89486	0.52766	0.11277	1.0327
1.3059	25.55050	21.93275	0.00000	0.91488	0.57273	0.088644	1.0757
1.7412	25.81100	21.58400	0.00000	0.93132	0.61678	0.063188	1.1153

Structure: B | Sub-structure: B11

Dist.	Coordinates			Displacements			
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line	
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	25.81100	21.58400	0.00000	0.93132	0.61678	-1.1138	0.084997
0.47915	25.43280	21.28980	0.00000	0.81211	0.54111	-0.97325	0.071532
0.95831	25.05450	20.99560	0.00000	0.69287	0.48213	-0.81171	0.058968
1.4375	24.67640	20.70140	0.00000	0.57304	0.38595	-0.68928	0.047212
1.9166	24.29820	20.40720	0.00000	0.45322	0.30672	-0.54606	0.036182
2.3958	23.92000	20.11300	0.00000	0.33323	0.22653	-0.40211	0.025807

Structure: B | Sub-structure: B12

Dist.	Coordinates			Displacements			
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line	
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	23.92000	20.11300	0.00000	0.33323	0.22653	0.025778	0.40211
0.47317	24.21050	19.73950	0.00000	0.34354	0.24475	0.017719	0.42144
0.94635	24.50100	19.36600	0.00000	0.35007	0.26076	0.0090915	0.43642

Structure: B | Sub-structure: B13

Dist.	Coordinates			Displacements			
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line	
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	24.50100	19.36600	0.00000	0.35007	0.26076	-0.43647	0.0062170
0.45943	24.13650	19.08630	0.00000	0.23320	0.17382	-0.29082	0.0040467
0.91886	23.77200	18.80667	0.00000	0.11630	0.086747	-0.14508	0.0019738
1.3783	23.40750	18.52700	0.00000	0.0	0.0	0.0	0.0
1.8377	23.04300	18.24733	0.00000	0.0	0.0	0.0	0.0
2.2971	22.67850	17.96767	0.00000	0.0	0.0	0.0	0.0
2.7566	22.31400	17.68800	0.00000	0.0	0.0	0.0	0.0

Structure: B | Sub-structure: B14

Dist.	Coordinates			Displacements			
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line	
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	22.31400	17.68800	0.00000	0.0	0.0	0.0	0.0
0.44350	22.04420	18.04000	0.00000	0.0	0.0	0.0	0.0
0.88701	21.77440	18.39200	0.00000	0.0	0.0	0.0	0.0
1.3305	21.50460	18.74400	0.00000	0.0	0.0	0.0	0.0
1.7740	21.23480	19.09600	0.00000	0.0	0.0	0.0	0.0
2.2175	20.96500	19.44800	0.00000	0.0	0.0	0.0	0.0



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Structure: B | Sub-structure: B15

Dist.	Coordinates			Displacements	
	x	y	z	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
	[m]	[m]	[m]	[mm]	[mm]
	0.0	20.96500	19.44800	0.00000	0.0 0.0
0.49138	20.57211	19.15289	0.00000	0.0 0.0	0.0 0.0
0.98276	20.17922	18.85778	0.00000	0.0 0.0	0.0 0.0
1.4741	19.78633	18.56267	0.00000	0.0 0.0	0.0 0.0
1.9655	19.39344	18.26756	0.00000	0.0 0.0	0.0 0.0
2.4569	19.00056	17.97244	0.00000	0.0 0.0	0.0 0.0
2.9483	18.60767	17.67733	0.00000	0.0 0.0	0.0 0.0
3.4396	18.21478	17.38222	0.00000	0.0 0.0	0.0 0.0
3.9310	17.82189	17.08711	0.00000	0.0 0.0	0.0 0.0
4.4224	17.42900	16.79200	0.00000	0.0 0.0	0.0 0.0

Structure: B | Sub-structure: B16

Dist.	Coordinates			Displacements	
	x	y	z	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
	[m]	[m]	[m]	[mm]	[mm]
	0.0	17.42900	16.79200	0.00000	0.0 0.0
0.49346	17.71689	16.39122	0.00000	0.0 0.0	0.0 0.0
0.98692	18.00478	15.99044	0.00000	0.0 0.0	0.0 0.0
1.4804	18.29267	15.58967	0.00000	0.0 0.0	0.0 0.0
1.9738	18.58056	15.1889	0.00000	0.0 0.0	0.0 0.0
2.4672	18.86844	14.78811	0.00000	0.0 0.0	0.0 0.0
2.9608	19.15633	14.38733	0.00000	0.0 0.0	0.0 0.0
3.4542	19.44422	13.98656	0.00000	0.0 0.0	0.0 0.0
3.9477	19.73211	13.58578	0.00000	0.0 0.0	0.0 0.0
4.4411	20.02000	13.18500	0.00000	0.0 0.0	0.0 0.0

Structure: B | Sub-structure: B17

Dist.	Coordinates			Displacements	
	x	y	z	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
	[m]	[m]	[m]	[mm]	[mm]
	0.0	20.02000	13.18500	0.00000	0.0 0.0
0.48838	19.64200	12.87575	0.00000	0.0 0.0	0.0 0.0
0.97677	19.26400	12.56650	0.00000	0.0 0.0	0.0 0.0
1.4652	18.88600	12.25725	0.00000	0.0 0.0	0.0 0.0
1.9535	18.50800	11.94800	0.00000	0.0 0.0	0.0 0.0

Structure: B | Sub-structure: B18

Dist.	Coordinates			Displacements	
	x	y	z	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
	[m]	[m]	[m]	[mm]	[mm]
	0.0	18.50800	11.94800	0.00000	0.0 0.0
0.43983	18.77567	11.59900	0.00000	0.0 0.0	0.0 0.0
0.87965	19.04333	11.24000	0.00000	0.0 0.0	0.0 0.0
1.3195	19.31100	10.90100	0.00000	0.0 0.0	0.0 0.0

Structure: B | Sub-structure: B19

Dist.	Coordinates			Displacements	
	x	y	z	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
	[m]	[m]	[m]	[mm]	[mm]
	0.0	19.31100	10.90100	0.00000	0.0 0.0
0.47300	18.93320	10.61640	0.00000	0.0 0.0	0.0 0.0
0.94600	18.55540	10.33180	0.00000	0.0 0.0	0.0 0.0
1.4190	18.17760	10.04720	0.00000	0.0 0.0	0.0 0.0
1.8920	17.79980	9.76260	0.00000	0.0 0.0	0.0 0.0
2.3650	17.42200	9.47800	0.00000	0.0 0.0	0.0 0.0

Structure: B | Sub-structure: B20

Dist.	Coordinates			Displacements	
	x	y	z	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
	[m]	[m]	[m]	[mm]	[mm]
	0.0	17.42200	9.47800	0.00000	0.0 0.0
0.46116	17.70327	9.11255	0.00000	0.0 0.0	0.0 0.0
0.92233	17.98455	8.74709	0.00000	0.0 0.0	0.0 0.0
1.3835	18.26582	8.38164	0.00000	0.0 0.0	0.0 0.0
1.8447	18.54709	8.01618	0.00000	0.0 0.0	0.0 0.0
2.3058	18.82836	7.65073	0.00000	0.0 0.0	0.0 0.0
2.7670	19.10964	7.28527	0.00000	0.0 0.0	0.0 0.0
3.2281	19.39091	6.91982	0.00000	0.0 0.0	0.0 0.0
3.6893	19.67218	6.55436	0.00000	0.0 0.0	0.0 0.0
4.1505	19.95345	6.18891	0.00000	0.0 0.0	0.0 0.0
4.6116	20.23472	5.82345	0.00000	0.0 0.0	0.0 0.0
5.0728	20.51600	5.45800	0.00000	0.0 0.0	0.0 0.0

Structure: C | Sub-structure: C1

Dist.	Coordinates			Displacements	
	x	y	z	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
	[m]	[m]	[m]	[mm]	[mm]
	0.0	36.28600	29.95000	0.00000	4.3589 -5.7962
0.45629	36.00578	30.31011	0.00000	4.1655 -5.5390	-7.2513 0.11954
0.91259	35.72556	30.67022	0.00000	3.9771 -5.2885	-6.9296 0.11423
1.3689	35.44533	31.03033	0.00000	3.7935 -5.0444	-6.6162 0.10907
1.8252	35.16511	31.39044	0.00000	3.6145 -4.8063	-6.3108 0.10403
2.2815	34.88489	31.75056	0.00000	3.4397 -4.5740	-6.0129 0.099122
2.7378	34.60467	32.11067	0.00000	3.2691 -4.3471	-5.7223 0.094331
3.1941	34.32444	32.47078	0.00000	3.1024 -4.1254	-5.4384 0.089652
3.6504	34.04422	32.83089	0.00000	2.9393 -3.9085	-5.1610 0.085079
4.1066	33.76400	33.19100	0.00000	2.7796 -3.6961	-4.8897 0.080606
					-4.6240 0.076226

Structure: C | Sub-structure: C2

Dist.	Coordinates			Displacements	
	x	y	z	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
	[m]	[m]	[m]	[mm]	[mm]
	0.0	33.76400	33.19100	0.00000	2.7796 -3.6961
0.48792	33.36471	32.91057	0.00000	2.7741 -3.6888	-0.15032 4.6222
0.97585	32.96543	32.63014	0.00000	2.7686 -3.6815	-0.15002 4.6131
					-0.14973 4.6039

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Dist.	Coordinates			Displacements		
	x	y	z	x	y	Horizontal displacement along the perpendicular
1.4638	32.56614	32.34971	0.00000	2.7577	-3.4268	-0.28720
1.9517	32.16686	32.06929	0.00000	2.7313	-3.0909	-0.45862
2.4396	31.76757	31.78886	0.00000	2.6889	-2.7576	-0.61552
2.9275	31.36829	31.50843	0.00000	2.6304	-2.4356	-0.75272
3.4155	30.96900	31.22800	0.00000	2.5664	-2.1247	-0.87907

Structure: C | Sub-structure: C3

Dist.	Coordinates			Displacements		
	x	y	z	x	y	Horizontal displacement along the perpendicular
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	30.96900	31.22800	0.00000	2.5664	-2.1247	-3.2138
0.48944	30.68767	31.52850	0.00000	2.4254	-2.0919	-3.1059
0.97887	30.40633	32.02900	0.00000	2.2833	-2.0374	-2.9797
1.4683	30.12500	32.42950	0.00000	2.1409	-1.9655	-2.8389
1.9577	29.84367	32.83000	0.00000	1.9983	-1.8794	-2.6865
2.4472	29.56233	33.23050	0.00000	1.8559	-1.7817	-2.5247
2.9366	29.28100	33.63100	0.00000	1.7137	-1.6742	-2.3551

Structure: C | Sub-structure: C4

Dist.	Coordinates			Displacements		
	x	y	z	x	y	Horizontal displacement along the perpendicular
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	29.28100	33.63100	0.00000	1.7137	-1.6742	0.36390
0.48464	29.66840	33.92220	0.00000	1.7429	-1.8332	0.29171
0.96928	30.05580	34.21340	0.00000	1.7647	-1.9904	0.21468
1.4539	30.44320	34.50460	0.00000	1.7787	-2.1433	0.13401
1.9386	30.83060	34.79580	0.00000	1.7847	-2.2893	0.051043
2.4232	31.21800	35.08700	0.00000	1.7842	-2.3726	654.96E-6

Structure: C | Sub-structure: C5

Dist.	Coordinates			Displacements		
	x	y	z	x	y	Horizontal displacement along the perpendicular
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	31.21800	35.08700	0.00000	1.7842	-2.3726	-1.2000
0.42208	31.42400	35.45540	0.00000	1.7313	-2.3022	-1.1644
0.84417	31.63000	35.82380	0.00000	1.6786	-2.2321	-1.1290
1.2663	31.83600	36.19220	0.00000	1.6261	-2.1623	-1.0936
1.6883	32.04200	36.56060	0.00000	1.5738	-2.0927	-1.0585
2.1104	32.24800	36.92900	0.00000	1.5217	-2.0234	-1.0234

Structure: C | Sub-structure: C6

Dist.	Coordinates			Displacements		
	x	y	z	x	y	Horizontal displacement along the perpendicular
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	32.24800	36.92900	0.00000	1.5217	-2.0234	0.026436
0.46414	32.42385	37.20408	0.00000	1.5291	-2.0254	0.026462
0.92829	32.95639	37.47915	0.00000	1.5246	-2.0274	0.026488
1.3924	33.36954	37.75423	0.00000	1.5261	-2.0293	0.026513
1.8566	33.74338	38.02931	0.00000	1.5276	-2.0313	0.026539
2.3207	34.11723	38.30438	0.00000	1.5291	-2.0333	0.026565
2.7849	34.49108	38.57946	0.00000	1.5305	-2.0352	0.026590
3.2490	34.86492	38.85454	0.00000	1.5320	-2.0372	0.026616
3.7131	35.23877	39.12962	0.00000	1.5335	-2.0392	0.026642
4.1773	35.61262	39.40469	0.00000	1.5350	-2.0411	0.026668
4.6414	35.98646	39.67977	0.00000	1.5365	-2.0431	0.026693
5.1056	36.36031	39.95485	0.00000	1.5379	-2.0451	0.026719
5.5697	36.73415	40.22992	0.00000	1.5394	-2.0470	0.026745
6.0339	37.10800	40.50500	0.00000	1.5409	-2.0490	0.026770

Structure: C | Sub-structure: C7

Dist.	Coordinates			Displacements		
	x	y	z	x	y	Horizontal displacement along the perpendicular
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	37.10800	40.50500	0.00000	1.5409	-2.0490	2.5636
0.44342	37.37100	40.14800	0.00000	1.6769	-2.2298	2.7899

Structure: C | Sub-structure: C8

Dist.	Coordinates			Displacements		
	x	y	z	x	y	Horizontal displacement along the perpendicular
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	37.37100	40.14800	0.00000	1.6769	-2.2298	0.028750
0.49716	37.77140	40.44270	0.00000	1.6785	-2.2319	0.028777
0.99432	38.17180	40.73740	0.00000	1.6801	-2.2341	0.028805
1.4915	38.57220	41.03210	0.00000	1.6816	-2.2362	0.028832
1.9886	38.97260	41.32680	0.00000	1.6832	-2.2383	0.028859
2.4858	39.37300	41.62150	0.00000	1.6848	-2.2404	0.028886
2.9830	39.77340	41.91620	0.00000	1.6864	-2.2425	0.028913
3.4801	40.17380	42.21090	0.00000	1.6880	-2.2446	0.028940
3.9773	40.57420	42.50560	0.00000	1.6895	-2.2467	0.028967
4.4744	40.97460	42.80030	0.00000	1.6911	-2.2488	0.028994
4.9716	41.37500	43.09500	0.00000	1.6927	-2.2509	0.029021

Structure: C | Sub-structure: C9

Dist.	Coordinates			Displacements		
	x	y	z	x	y	Horizontal displacement along the perpendicular
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	41.37500	43.09500	0.00000	1.6927	-2.2509	2.8162
0.43642	41.63367	42.74350	0.00000	1.8281	-2.4309	3.0414
0.87284	41.89233	42.39200	0.00000	1.9655	-2.6131	3.2694
1.3093	42.15100	42.04050	0.00000	2.1039	-2.7977	3.5003
1.7457	42.40967	41.68900	0.00000	2.2447	-2.9849	3.7345
2.1821	42.66833	41.33750	0.00000	2.3877	-3.1750	3.9724
2.6185	42.92700	40.98600	0.00000	2.5331	-3.3683	4.2143

Structure: C | Sub-structure: C10

Dist.	Coordinates			Displacements		
	x	y	z	x	y	Horizontal displacement along the perpendicular
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]



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Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
6.7935	25.39288	42.75788	0.00000	0.0	0.0	0.0
7.2788	25.78573	43.04273	0.00000	0.0	0.0	0.0
7.7640	26.17858	43.32758	0.00000	0.0	0.0	0.0
8.2493	26.57142	43.61242	0.00000	0.0	0.0	0.0
8.7345	26.96427	43.89727	0.00000	0.0	0.0	0.0
9.2198	27.35712	44.18212	0.00000	0.0	0.0	0.0
9.7050	27.74997	44.46697	0.00000	0.0	0.0	0.0
10.190	28.14282	44.75182	0.00000	0.0	0.0	0.0
10.676	28.53567	45.03667	0.00000	0.0	0.0	0.0
11.161	28.92852	45.32152	0.00000	0.0	0.0	0.0
11.646	29.32137	45.60637	0.00000	0.0	0.0	0.0
12.131	29.71421	45.89121	0.00000	0.0	0.0	0.0
12.617	30.10706	46.17606	0.00000	0.0	0.0	0.0
13.102	30.49991	46.46091	0.00000	0.0	0.0	0.0
13.587	30.89276	46.74576	0.00000	0.0	0.0	0.0
14.072	31.28561	47.03061	0.00000	0.0	0.0	0.0
14.558	31.67845	47.31545	0.00000	0.0	0.0	0.0
15.043	32.07130	47.60030	0.00000	0.0	0.0	0.0
15.528	32.46415	47.88515	0.00000	0.0	0.0	0.0
16.013	32.85700	48.17000	0.00000	0.0	0.0	0.0

Structure: D | Sub-structure: D5

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	32.85700	48.17000	0.00000	0.0	0.0	0.0
0.44175	33.18711	47.91061	0.00000	0.0	0.0	0.0
0.88350	33.38243	47.45971	0.00000	0.0	0.0	0.0
1.3253	33.64514	47.10457	0.00000	0.0	0.0	0.0
1.7670	33.90786	46.74943	0.00000	0.0	0.0	0.0
2.2088	34.17057	46.39429	0.00000	0.020195	-0.026855	0.033600
2.6505	34.43329	46.03915	0.00000	0.10482	-0.13939	0.17440
3.0923	34.69600	45.68400	0.00000	0.18945	-0.25192	0.31520

Structure: D | Sub-structure: D6

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	34.69600	45.68400	0.00000	0.18945	-0.25192	-0.0025265
0.38681	34.38500	45.45400	0.00000	0.18886	-0.25113	-0.0025186
0.77362	34.07400	45.22400	0.00000	0.18826	-0.25034	-0.0025106
1.1604	33.76300	44.99400	0.00000	0.18767	-0.24955	-0.0025027

Structure: D | Sub-structure: D7

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	33.76300	44.99400	0.00000	0.18767	-0.24955	0.31223
0.45636	34.03370	44.62660	0.00000	0.27509	-0.36581	0.45768
0.91271	34.20440	44.25920	0.00000	0.36252	-0.48206	0.60313
1.3691	34.57510	43.89180	0.00000	0.44994	-0.59831	0.74858
1.8254	34.84580	43.52440	0.00000	0.53737	-0.71456	0.89403
2.2818	35.11650	43.15700	0.00000	0.62479	-0.83081	1.0395
2.7381	35.38720	42.78960	0.00000	0.71222	-0.94707	1.1849
3.1945	35.65790	42.42220	0.00000	0.81920	-1.0893	1.3299
3.6509	35.92860	42.05480	0.00000	0.95502	-1.2699	1.5889
4.1072	36.19930	41.68740	0.00000	1.0911	-1.4509	1.8154
4.5636	36.47000	41.32000	0.00000	1.2278	-1.6327	2.0427

Structure: D | Sub-structure: D8

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	36.47000	41.32000	0.00000	1.2278	-1.6327	-0.034290
0.47879	36.08257	41.03870	0.00000	1.2254	-1.6295	-0.034222
0.95759	35.69513	40.75739	0.00000	1.2230	-1.6263	-0.034155
1.4364	35.30770	40.47609	0.00000	1.2206	-1.6230	-0.034088
1.9152	34.92026	40.19478	0.00000	1.2182	-1.6198	-0.034020
2.3939	34.53283	39.91348	0.00000	1.2157	-1.6166	-0.033953
2.8727	34.14539	39.63217	0.00000	1.2133	-1.6134	-0.033886
3.3515	33.75796	39.35087	0.00000	1.2109	-1.6102	-0.033818
3.8303	33.37052	39.06957	0.00000	1.2085	-1.6070	-0.033751
4.3091	32.98309	38.78826	0.00000	1.2061	-1.6038	-0.033683
4.7879	32.59565	38.50696	0.00000	1.2037	-1.6006	-0.033616
5.2667	32.20822	38.22565	0.00000	1.2013	-1.5974	-0.033549
5.7455	31.82078	37.94435	0.00000	1.1989	-1.5942	-0.033482
6.2242	31.43335	37.66304	0.00000	1.1965	-1.5910	-0.033414
6.7030	31.04591	37.38174	0.00000	1.1940	-1.5878	-0.033347
7.1818	30.65848	37.10043	0.00000	1.1916	-1.5846	-0.033280
7.6606	30.27104	36.81913	0.00000	1.1892	-1.5814	-0.033212
8.1394	29.88361	36.53783	0.00000	1.1868	-1.5780	-0.033144
8.6182	29.49617	36.25652	0.00000	1.1844	-1.5748	-0.033076
9.0970	29.10874	35.97522	0.00000	1.1820	-1.5716	-0.033008
9.5758	28.72130	35.69391	0.00000	1.1796	-1.5684	-0.032940
10.0546	28.33387	35.41261	0.00000	1.1872	-1.5652	-0.032872
10.5334	27.94643	35.13130	0.00000	1.1848	-1.5620	-0.032804
11.0122	27.55900	34.85000	0.00000	1.1824	-1.5588	-0.032736

Specific Building Damage Results - Vertical Displacements

Structure: A | Sub-structure: A1

Dist.	Coordinates			Displacements
	x	y	z	
[m]	[m]	[m]	[mm]	
Vertical Offset 1				
0.0	29.57700	22.24700	0.89047	
0.47829	29.95067	22.54556	1.0388	
0.95658	30.32433	22.84411	1.1956	
1.4349	30.69800	23.14267	1.3585	
1.9132	31.07167	23.44122	1.5246	
2.3915	31.44533	23.73978	1.6906	
2.8697	31.81900	24.03833	1.8551	
3.3480	32.19267	24.33689	2.0228	
3.8263	32.56633	24.63544	2.1985	
4.3046	32.94000	24.93400	2.3595	

Structure: A | Sub-structure: A2

Dist.	Coordinates			Displacements
	x	y	z	
[m]	[m]	[m]	[mm]	
Vertical Offset 1				
0.0	32.94000	24.93400	2.3595	



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Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
0.41896	33.20150	24.60667	0.00000	2.3636
0.83792	33.46300	24.27933	0.00000	2.3677
1.2569	33.72450	23.95200	0.00000	2.3718
1.6758	33.98600	23.62467	0.00000	2.3759
2.0948	34.24750	23.29733	0.00000	2.3800
2.5138	34.50900	22.97000	0.00000	2.3841

Structure: A | Sub-structure: A3

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	34.50900	22.97000	0.00000	2.3841
0.47280	34.87837	23.26512	0.00000	2.5430
0.94559	35.24775	23.56025	0.00000	2.7029
1.4184	35.61713	23.85537	0.00000	2.8622
1.8912	35.98650	24.15050	0.00000	3.0164
2.3640	36.35587	24.44563	0.00000	3.1584
2.8368	36.72525	24.74075	0.00000	3.2784
3.3096	37.09463	25.03588	0.00000	3.3637
3.7824	37.46400	25.33100	0.00000	3.3989

Structure: A | Sub-structure: A4

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	37.46400	25.33100	0.00000	3.3989
0.48725	37.75238	24.93825	0.00000	3.3988
0.97450	38.04075	24.54550	0.00000	3.3987
1.4618	38.32912	24.15275	0.00000	3.3987
1.9490	38.61750	23.76000	0.00000	3.3986
2.4363	38.90588	23.36725	0.00000	3.3985
2.9235	39.19425	22.97450	0.00000	3.3984
3.4108	39.48262	22.58175	0.00000	3.3983
3.8980	39.77100	22.18900	0.00000	3.3982

Structure: A | Sub-structure: A5

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	39.77100	22.18900	0.00000	3.3982
0.49935	39.37894	21.87975	0.00000	3.3536
0.99870	38.98687	21.57050	0.00000	3.2560
1.4980	38.59481	21.26125	0.00000	3.1227
1.9974	38.20275	20.95200	0.00000	2.9680
2.4967	37.81069	20.64275	0.00000	2.8026
2.9961	37.41862	20.33350	0.00000	2.6337
3.4954	37.02656	20.02425	0.00000	2.4652
3.9948	36.63450	19.71500	0.00000	2.2977
4.4941	36.24244	19.40575	0.00000	2.1283
4.9935	35.85038	19.09650	0.00000	1.9507
5.4929	35.45831	18.78725	0.00000	1.7695
5.9922	35.06625	18.47800	0.00000	1.5976
6.4915	34.67419	18.16875	0.00000	1.4238
6.9909	34.28213	17.85950	0.00000	1.2521
7.4902	33.89006	17.55025	0.00000	1.0859
7.9896	33.49800	17.24100	0.00000	0.92831

Structure: A | Sub-structure: A6

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	33.49800	17.24100	0.00000	0.92831
0.48914	33.19638	17.62608	0.00000	0.92537
0.97828	32.89477	18.01115	0.00000	0.92244
1.4674	32.59315	18.39623	0.00000	0.91952
1.9566	32.29154	18.78131	0.00000	0.91659
2.4457	31.98992	19.16638	0.00000	0.91367
2.9348	31.68831	19.55146	0.00000	0.91076
3.4240	31.38669	19.93654	0.00000	0.90785
3.9131	31.08508	20.32162	0.00000	0.90494
4.4022	30.78346	20.70669	0.00000	0.90204
4.8914	30.48185	21.09177	0.00000	0.89914
5.3805	30.18023	21.47685	0.00000	0.89625
5.8697	29.87862	21.86192	0.00000	0.89336
6.3588	29.57700	22.24700	0.00000	0.89047

Structure: B | Sub-structure: B1

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	20.51600	5.45800	0.00000	0.0
0.48720	20.90600	5.75000	0.00000	0.0
0.97440	21.29600	6.04200	0.00000	0.0
1.4616	21.68600	6.33400	0.00000	0.0
1.9488	22.07600	6.62600	0.00000	0.0
2.4360	22.46600	6.91800	0.00000	0.0
2.9232	22.85600	7.21000	0.00000	0.0
3.4104	23.24600	7.50200	0.00000	0.0
3.8976	23.63600	7.79400	0.00000	0.0

Structure: B | Sub-structure: B2

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	23.63600	7.79400	0.00000	0.0
0.46125	23.35400	8.11500	0.00000	0.0
0.92249	23.07200	8.52400	0.00000	0.0

Structure: B | Sub-structure: B3

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	23.07200	8.52400	0.00000	0.0
0.46917	23.44545	8.80800	0.00000	0.0
0.93835	23.81891	9.09200	0.00000	0.0
1.4075	24.19236	9.37600	0.00000	0.0
1.8767	24.56582	9.66000	0.00000	0.0
2.3459	24.93927	9.94400	0.00000	0.0
2.8150	25.31273	10.22800	0.00000	0.0
3.2842	25.68618	10.51200	0.00000	0.0
3.7534	26.05964	10.79600	0.00000	0.0



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Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
4.2226	26.43309	11.08000	0.00000	0.0
4.6917	26.80655	11.36400	0.00000	0.0
5.1609	27.18000	11.64800	0.00000	0.0

Structure: B | Sub-structure: B4

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	27.18000	11.64800	0.00000	0.0
0.36061	27.39833	11.36100	0.00000	0.0
0.72122	27.61667	11.07400	0.00000	0.0
1.0818	27.83500	10.78700	0.00000	0.0

Structure: B | Sub-structure: B5

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	27.83500	10.78700	0.00000	0.0
0.48959	28.22792	11.07908	0.00000	0.0
0.97918	28.62085	11.37115	0.00000	0.0
1.4688	29.01377	11.66323	0.00000	0.023478
1.9584	29.40669	11.95531	0.00000	0.044447
2.4479	29.79962	12.24738	0.00000	0.060795
2.9375	30.19254	12.53946	0.00000	0.076623
3.4271	30.58546	12.83154	0.00000	0.092542
3.9167	30.97838	13.12362	0.00000	0.10847
4.4063	31.37131	13.41569	0.00000	0.12440
4.8959	31.76423	13.70777	0.00000	0.14033
5.3855	32.15715	13.99985	0.00000	0.15626
5.8751	32.55008	14.29192	0.00000	0.17219
6.3647	32.94300	14.58400	0.00000	0.18812

Structure: B | Sub-structure: B6

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	32.94300	14.58400	0.00000	0.41530
0.35614	32.73033	14.86967	0.00000	0.41563
0.71227	32.51767	15.15533	0.00000	0.41596
1.0684	32.30500	15.44100	0.00000	0.41629

Structure: B | Sub-structure: B7

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	32.30500	15.44100	0.00000	0.41629
0.36690	32.60133	15.65733	0.00000	0.49073
0.73379	32.89767	15.87367	0.00000	0.57343
1.1007	33.19400	16.09000	0.00000	0.66412

Structure: B | Sub-structure: B8

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	33.19400	16.09000	0.00000	0.66412
0.48246	32.90414	16.47568	0.00000	0.66416
0.96493	32.61427	16.86136	0.00000	0.66420
1.4474	32.32441	17.24705	0.00000	0.66423
1.9299	32.03455	17.63273	0.00000	0.66427
2.4123	31.74468	18.01841	0.00000	0.66430
2.8948	31.45482	18.40409	0.00000	0.66434
3.3772	31.16495	18.78977	0.00000	0.66438
3.8597	30.87509	19.17545	0.00000	0.66441
4.3422	30.58523	19.56114	0.00000	0.66445
4.8246	30.29536	19.94682	0.00000	0.66448
5.3071	30.00550	20.33250	0.00000	0.66452
5.7896	29.71564	20.71818	0.00000	0.66456
6.2720	29.42577	21.10386	0.00000	0.66459
6.7545	29.13591	21.48955	0.00000	0.66463
7.2370	28.84605	21.87523	0.00000	0.66466
7.7194	28.55618	22.26091	0.00000	0.66470
8.2019	28.26632	22.64659	0.00000	0.70068
8.6843	27.97645	23.03227	0.00000	0.73147
9.1668	27.68659	23.41795	0.00000	0.75505
9.6493	27.39673	23.80364	0.00000	0.77117
10.132	27.10686	24.18932	0.00000	0.77974
10.614	26.81700	24.57500	0.00000	0.78088

Structure: B | Sub-structure: B9

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	26.81700	24.57500	0.00000	0.78088
0.43274	26.47567	24.30900	0.00000	0.66551
0.86548	26.13433	24.04300	0.00000	0.56226
1.2982	25.79300	23.77700	0.00000	0.47112
1.7310	25.45167	23.51100	0.00000	0.39184
2.1637	25.11033	23.24500	0.00000	0.32391
2.5964	24.76900	22.97900	0.00000	0.26657

Structure: B | Sub-structure: B10

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	24.76900	22.97900	0.00000	0.26657
0.43530	25.02950	22.63025	0.00000	0.26186
0.87060	25.29000	22.28150	0.00000	0.25487
1.3059	25.55050	21.93275	0.00000	0.24563
1.7412	25.81100	21.58400	0.00000	0.23419

Structure: B | Sub-structure: B11

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	25.81100	21.58400	0.00000	0.23419
0.47915	25.43280	21.28980	0.00000	0.18491
0.95831	25.05460	20.99560	0.00000	0.14641



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Dist. Coordinates Displacements

[m]	x [m]	y [m]	z [m]	z [mm]
1.4375	24.67640	20.70140	0.00000	0.11661
1.9166	24.29820	20.40720	0.00000	0.092987
2.3958	23.92000	20.11300	0.00000	0.072572

Structure: B | Sub-structure: B12

Dist. Coordinates Displacements

[m]	x [m]	y [m]	z [m]	z [mm]
0.0	23.92000	20.11300	0.00000	0.072572
0.47317	24.21050	19.73950	0.00000	0.068390
0.94635	24.50100	19.36600	0.00000	0.063414

Vertical Offset 1

Structure: B | Sub-structure: B13

Dist. Coordinates Displacements

[m]	x [m]	y [m]	z [m]	z [mm]
0.0	24.50100	19.36600	0.00000	0.063414
0.45943	24.13650	19.08633	0.00000	0.047867
0.91896	23.77200	18.80667	0.00000	0.028887
1.3783	23.40750	18.52700	0.00000	0.0
1.8377	23.04300	18.24733	0.00000	0.0
2.2971	22.67850	17.96767	0.00000	0.0
2.7566	22.31400	17.68800	0.00000	0.0

Vertical Offset 1

Structure: B | Sub-structure: B14

Dist. Coordinates Displacements

[m]	x [m]	y [m]	z [m]	z [mm]
0.0	22.31400	17.68800	0.00000	0.0
0.44350	22.04420	18.04000	0.00000	0.0
0.88701	21.77440	18.39200	0.00000	0.0
1.3305	21.50460	18.74400	0.00000	0.0
1.7740	21.23480	19.09600	0.00000	0.0
2.2175	20.96500	19.44800	0.00000	0.0

Vertical Offset 1

Structure: B | Sub-structure: B15

Dist. Coordinates Displacements

[m]	x [m]	y [m]	z [m]	z [mm]
0.0	20.96500	19.44800	0.00000	0.0
0.49138	20.57211	19.15289	0.00000	0.0
0.98276	20.17922	18.85778	0.00000	0.0
1.4741	19.78633	18.56267	0.00000	0.0
1.9655	19.39344	18.26756	0.00000	0.0
2.4569	19.00056	17.97244	0.00000	0.0
2.9483	18.60767	17.67733	0.00000	0.0
3.4396	18.21478	17.38222	0.00000	0.0
3.9310	17.82189	17.08711	0.00000	0.0
4.4224	17.42900	16.79200	0.00000	0.0

Vertical Offset 1

Structure: B | Sub-structure: B16

Dist. Coordinates Displacements

[m]	x [m]	y [m]	z [m]	z [mm]
0.0	17.42900	16.79200	0.00000	0.0
0.49346	17.71689	16.39122	0.00000	0.0
0.98692	18.00478	15.99044	0.00000	0.0
1.4804	18.29267	15.58967	0.00000	0.0
1.9738	18.58056	15.18889	0.00000	0.0
2.4673	18.86844	14.78811	0.00000	0.0
2.9608	19.15633	14.38733	0.00000	0.0
3.4542	19.44422	13.98656	0.00000	0.0
3.9477	19.73211	13.58578	0.00000	0.0
4.4411	20.02000	13.18500	0.00000	0.0

Vertical Offset 1

Structure: B | Sub-structure: B17

Dist. Coordinates Displacements

[m]	x [m]	y [m]	z [m]	z [mm]
0.0	20.02000	13.18500	0.00000	0.0
0.48838	19.64200	12.87575	0.00000	0.0
0.97677	19.26400	12.56650	0.00000	0.0
1.4652	18.88600	12.25725	0.00000	0.0
1.9535	18.50800	11.94800	0.00000	0.0

Vertical Offset 1

Structure: B | Sub-structure: B18

Dist. Coordinates Displacements

[m]	x [m]	y [m]	z [m]	z [mm]
0.0	18.50800	11.94800	0.00000	0.0
0.43983	18.77567	11.59900	0.00000	0.0
0.87965	19.04333	11.25000	0.00000	0.0
1.3195	19.31100	10.90100	0.00000	0.0

Vertical Offset 1

Structure: B | Sub-structure: B19

Dist. Coordinates Displacements

[m]	x [m]	y [m]	z [m]	z [mm]
0.0	19.31100	10.90100	0.00000	0.0
0.47300	18.93220	10.61540	0.00000	0.0
0.94600	18.55540	10.33180	0.00000	0.0
1.4190	18.17760	10.04720	0.00000	0.0
1.8920	17.79980	9.76260	0.00000	0.0
2.3650	17.42200	9.47800	0.00000	0.0

Vertical Offset 1

Structure: B | Sub-structure: B20

Dist. Coordinates Displacements

[m]	x [m]	y [m]	z [m]	z [mm]
0.0	17.42200	9.47800	0.00000	0.0
0.46116	17.70327	9.11255	0.00000	0.0
0.92233	17.98455	8.74709	0.00000	0.0
1.3835	18.26582	8.38164	0.00000	0.0

Vertical Offset 1



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Dist.	Coordinates			Displacements	
	x	y	z	z	z
[m]	[m]	[m]	[m]	[mm]	[mm]
1.8447	18.54709	8.01618	0.00000	0.0	
2.3058	18.82836	7.65073	0.00000	0.0	
2.7670	19.10964	7.28527	0.00000	0.0	
3.2281	19.39091	6.91982	0.00000	0.0	
3.6893	19.67218	6.55436	0.00000	0.0	
4.1505	19.95345	6.18891	0.00000	0.0	
4.6116	20.23473	5.82345	0.00000	0.0	
5.0728	20.51600	5.45800	0.00000	0.0	

Structure: C | Sub-structure: C1

Dist.	Coordinates			Displacements	
	x	y	z	z	z
[m]	[m]	[m]	[m]	[mm]	[mm]
Vertical Offset 1					
0.0	36.28600	29.95000	0.00000	5.1389	
0.45629	36.00578	30.31011	0.00000	5.1822	
0.91259	35.72556	30.67022	0.00000	5.1698	
1.3689	35.44533	31.03033	0.00000	5.1087	
1.8252	35.16511	31.39044	0.00000	5.0054	
2.2815	34.88489	31.75056	0.00000	4.8660	
2.7378	34.60467	32.11067	0.00000	4.6965	
3.1941	34.32444	32.47078	0.00000	4.5021	
3.6504	34.04422	32.83089	0.00000	4.2879	
4.1066	33.76400	33.19100	0.00000	4.0587	

Structure: C | Sub-structure: C2

Dist.	Coordinates			Displacements	
	x	y	z	z	z
[m]	[m]	[m]	[m]	[mm]	[mm]
Vertical Offset 1					
0.0	33.76400	33.19100	0.00000	4.0587	
0.48792	33.36471	32.91057	0.00000	4.0505	
0.97585	32.96543	32.63014	0.00000	4.0423	
1.4638	32.56614	32.34971	0.00000	3.9410	
1.9517	32.16686	32.06929	0.00000	3.7951	
2.4396	31.76757	31.78886	0.00000	3.6333	
2.9275	31.36829	31.50843	0.00000	3.4579	
3.4155	30.96900	31.22800	0.00000	3.2736	

Structure: C | Sub-structure: C3

Dist.	Coordinates			Displacements	
	x	y	z	z	z
[m]	[m]	[m]	[m]	[mm]	[mm]
Vertical Offset 1					
0.0	30.96900	31.22800	0.00000	3.2736	
0.48944	30.68767	31.62850	0.00000	3.0876	
0.97887	30.40633	32.02900	0.00000	2.8889	
1.4683	30.12500	32.42950	0.00000	2.6822	
1.9577	29.84367	32.83000	0.00000	2.4719	
2.4472	29.56233	33.23050	0.00000	2.2619	
2.9366	29.28100	33.63100	0.00000	2.0553	

Structure: C | Sub-structure: C4

Dist.	Coordinates			Displacements	
	x	y	z	z	z
[m]	[m]	[m]	[m]	[mm]	[mm]
Vertical Offset 1					
0.0	29.28100	33.63100	0.00000	2.0553	
0.48464	29.66840	33.92220	0.00000	2.1548	
0.96928	30.05580	34.21340	0.00000	2.2450	
1.4539	30.44320	34.50460	0.00000	2.3245	
1.9386	30.83060	34.79580	0.00000	2.3919	
2.4232	31.21800	35.08700	0.00000	2.4259	

Structure: C | Sub-structure: C5

Dist.	Coordinates			Displacements	
	x	y	z	z	z
[m]	[m]	[m]	[m]	[mm]	[mm]
Vertical Offset 1					
0.0	31.21800	35.08700	0.00000	2.4259	
0.42208	31.42400	35.45540	0.00000	2.3398	
0.84417	31.63000	35.82380	0.00000	2.2549	
1.2663	31.83600	36.19220	0.00000	2.1714	
1.6883	32.04200	36.56060	0.00000	2.0895	
2.1104	32.24800	36.92900	0.00000	2.0090	

Structure: C | Sub-structure: C6

Dist.	Coordinates			Displacements	
	x	y	z	z	z
[m]	[m]	[m]	[m]	[mm]	[mm]
Vertical Offset 1					
0.0	32.24800	36.92900	0.00000	2.0090	
0.46414	32.62185	37.20408	0.00000	2.0113	
0.92829	32.99569	37.47915	0.00000	2.0136	
1.3924	33.36954	37.75423	0.00000	2.0158	
1.8566	33.74338	38.02931	0.00000	2.0181	
2.3207	34.11723	38.30439	0.00000	2.0204	
2.7849	34.49108	38.57946	0.00000	2.0226	
3.2490	34.86492	38.85454	0.00000	2.0249	
3.7131	35.23877	39.12962	0.00000	2.0272	
4.1773	35.61262	39.40469	0.00000	2.0295	
4.6414	35.98646	39.67977	0.00000	2.0317	
5.1056	36.36031	39.95485	0.00000	2.0340	
5.5697	36.73415	40.22992	0.00000	2.0363	
6.0339	37.10800	40.50500	0.00000	2.0386	

Structure: C | Sub-structure: C7

Dist.	Coordinates			Displacements	
	x	y	z	z	z
[m]	[m]	[m]	[m]	[mm]	[mm]
Vertical Offset 1					
0.0	37.10800	40.50500	0.00000	2.0386	
0.44342	37.37100	40.14800	0.00000	2.2522	

Structure: C | Sub-structure: C8

Dist.	Coordinates			Displacements	
	x	y	z	z	z
[m]	[m]	[m]	[m]	[mm]	[mm]
Vertical Offset 1					
0.0	37.37100	40.14800	0.00000	2.2522	
0.49716	37.77140	40.44270	0.00000	2.2547	
0.99432	38.17180	40.73740	0.00000	2.2573	
1.4915	38.57220	41.03210	0.00000	2.2598	
1.9886	38.97260	41.32680	0.00000	2.2623	
2.4858	39.37300	41.62150	0.00000	2.2648	



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Structure: C | Sub-structure: C9

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	
2.9830	39.77340	41.91620	0.00000	2.2674	
3.4801	40.17380	42.21090	0.00000	2.2699	
3.9773	40.57420	42.50560	0.00000	2.2724	
4.4744	40.97460	42.80030	0.00000	2.2750	
4.9716	41.37500	43.09500	0.00000	2.2775	

Structure: C | Sub-structure: C9

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	
0.0	41.37500	43.09500	0.00000	2.2775	
0.43642	41.63357	42.74350	0.00000	2.4981	
0.87284	41.89223	42.39200	0.00000	2.7262	
1.3093	42.15100	42.04050	0.00000	2.9602	
1.7457	42.40967	41.68900	0.00000	3.1981	
2.1821	42.66833	41.33750	0.00000	3.4373	
2.6185	42.92700	40.98600	0.00000	3.6754	

Structure: C | Sub-structure: C10

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	
0.0	42.92700	40.98600	0.00000	3.6754	
0.41162	42.59850	40.74200	0.00000	3.6731	
0.82323	42.26400	40.49800	0.00000	3.6708	

Structure: C | Sub-structure: C11

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	
0.0	42.26400	40.49800	0.00000	3.6708	
0.49410	42.55680	40.10000	0.00000	3.9351	
0.98820	42.84960	39.70200	0.00000	4.1894	
1.4823	43.14240	39.30400	0.00000	4.4283	
1.9764	43.43520	38.90600	0.00000	4.6461	
2.4705	43.72800	38.50800	0.00000	4.8363	
2.9646	44.02080	38.11000	0.00000	4.9924	
3.4587	44.31360	37.71200	0.00000	5.1069	
3.9528	44.60640	37.31400	0.00000	5.1720	
4.4469	44.89920	36.91600	0.00000	5.1795	
4.9410	45.19200	36.51800	0.00000	5.1206	

Structure: C | Sub-structure: C12

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	
0.0	45.19200	36.51800	0.00000	5.1206	
0.48113	44.80478	36.23243	0.00000	5.1215	
0.96226	44.41757	35.94687	0.00000	5.1223	
1.4434	44.03035	35.66130	0.00000	5.1232	
1.9245	43.64313	35.37574	0.00000	5.1240	
2.4056	43.25591	35.09017	0.00000	5.1249	
2.8868	42.86870	34.80461	0.00000	5.1257	
3.3679	42.48148	34.51904	0.00000	5.1265	
3.8490	42.09426	34.23348	0.00000	5.1274	
4.3302	41.70704	33.94791	0.00000	5.1282	
4.8113	41.31983	33.66235	0.00000	5.1290	
5.2924	40.93261	33.37678	0.00000	5.1298	
5.7735	40.54539	33.09122	0.00000	5.1306	
6.2547	40.15817	32.80565	0.00000	5.1314	
6.7358	39.77096	32.52009	0.00000	5.1322	
7.2169	39.38374	32.23452	0.00000	5.1329	
7.6981	38.99652	31.94896	0.00000	5.1337	
8.1792	38.60930	31.66339	0.00000	5.1345	
8.6603	38.22209	31.37783	0.00000	5.1352	
9.1414	37.83487	31.09226	0.00000	5.1360	
9.6226	37.44765	30.80670	0.00000	5.1367	
10.1037	37.06043	30.52113	0.00000	5.1375	
10.5848	36.67322	30.23557	0.00000	5.1382	
11.066	36.28600	29.95000	0.00000	5.1389	

Structure: D | Sub-structure: D1

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	
0.0	27.55900	34.85000	0.00000	1.1938	
0.48439	27.27278	35.24078	0.00000	1.0480	
0.96877	26.98656	35.63156	0.00000	0.91298	
1.4532	26.70033	36.02233	0.00000	0.78823	
1.9375	26.41411	36.41311	0.00000	0.67284	
2.4219	26.12789	36.80389	0.00000	0.56539	
2.9063	25.84167	37.19467	0.00000	0.46401	
3.3907	25.55544	37.58544	0.00000	0.36632	
3.8751	25.26922	37.97622	0.00000	0.26953	
4.3595	24.98300	38.36700	0.00000	0.17032	

Structure: D | Sub-structure: D2

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	
0.0	24.98300	38.36700	0.00000	0.17032	
0.49046	24.58738	38.07712	0.00000	0.14527	
0.98091	24.19175	37.78725	0.00000	0.11761	
1.4714	23.79613	37.49737	0.00000	0.087370	
1.9618	23.40050	37.20750	0.00000	0.054462	
2.4523	23.00488	36.91763	0.00000	0.028718	
2.9427	22.60925	36.62775	0.00000	0.0	
3.4332	22.21363	36.33788	0.00000	0.0	
3.9236	21.81800	36.04800	0.00000	0.0	

Structure: D | Sub-structure: D3

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	
0.0	21.81800	36.04800	0.00000	0.0	
0.47627	21.54300	36.43686	0.00000	0.0	
0.95254	21.26800	36.82571	0.00000	0.0	
1.4288	20.99300	37.21457	0.00000	0.0	
1.9051	20.71800	37.60343	0.00000	0.0	
2.3814	20.44300	37.99229	0.00000	0.0	
2.8576	20.16800	38.38114	0.00000	0.0	



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Dist.	Coordinates		Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]
3.3339	19.89300	38.77000	0.00000	0.0

Structure: D | Sub-structure: D4

Dist.	Coordinates		Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]

Vertical Offset 1

0.0	19.89300	38.77000	0.00000	0.0
0.48525	20.28585	39.05485	0.00000	0.0
0.97050	20.67870	39.33970	0.00000	0.0
1.4558	21.07155	39.62455	0.00000	0.0
1.9410	21.46439	39.90939	0.00000	0.0
2.4263	21.85724	40.19424	0.00000	0.0
2.9115	22.25009	40.47909	0.00000	0.0
3.3968	22.64294	40.76394	0.00000	0.0
3.8820	23.03579	41.04879	0.00000	0.0
4.3673	23.42864	41.33364	0.00000	0.0
4.8525	23.82149	41.61849	0.00000	0.0
5.3378	24.21433	41.90333	0.00000	0.0
5.8230	24.60718	42.18818	0.00000	0.0
6.3083	25.00003	42.47303	0.00000	0.0
6.7935	25.39288	42.75788	0.00000	0.0
7.2788	25.78573	43.04273	0.00000	0.0
7.7640	26.17858	43.32758	0.00000	0.0
8.2493	26.57142	43.61242	0.00000	0.0
8.7345	26.96427	43.89727	0.00000	0.0
9.2198	27.35712	44.18212	0.00000	0.0
9.7050	27.74997	44.46697	0.00000	0.0
10.1903	28.14282	44.75182	0.00000	0.0
10.6755	28.53567	45.03667	0.00000	0.0
11.1608	28.92852	45.32152	0.00000	0.0
11.6460	29.32136	45.60636	0.00000	0.0
12.1313	29.71421	45.89121	0.00000	0.0
12.6165	30.10706	46.17606	0.00000	0.0
13.1018	30.49991	46.46091	0.00000	0.0
13.5870	30.89276	46.74576	0.00000	0.0
14.0723	31.28561	47.03061	0.00000	0.0
14.5575	31.67845	47.31545	0.00000	0.0
15.0428	32.07130	47.60030	0.00000	0.0
15.5280	32.46415	47.88515	0.00000	0.0
16.0133	32.85700	48.17000	0.00000	0.0

Structure: D | Sub-structure: D5

Dist.	Coordinates		Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]

Vertical Offset 1

0.0	32.85700	48.17000	0.00000	0.0
0.44175	33.11971	47.81486	0.00000	0.0
0.88350	33.38243	47.45971	0.00000	0.0
1.32525	33.64514	47.10457	0.00000	0.0
1.76700	33.90786	46.74943	0.00000	0.0
2.20875	34.17057	46.39429	0.00000	0.030748
2.65050	34.43329	46.03914	0.00000	0.14205
3.09225	34.69600	45.68400	0.00000	0.24739

Structure: D | Sub-structure: D6

Dist.	Coordinates		Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]

Vertical Offset 1

0.0	34.69600	45.68400	0.00000	0.24739
0.38681	34.38500	45.45400	0.00000	0.24667
0.77362	34.07400	45.22400	0.00000	0.24594
1.16043	33.76300	44.99400	0.00000	0.24521

Structure: D | Sub-structure: D7

Dist.	Coordinates		Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]

Vertical Offset 1

0.0	33.76300	44.99400	0.00000	0.24521
0.45636	34.03370	44.62660	0.00000	0.35124
0.91271	34.30440	44.25920	0.00000	0.45752
1.36916	34.57510	43.89180	0.00000	0.56691
1.82561	34.84580	43.52440	0.00000	0.68190
2.28206	35.11650	43.15700	0.00000	0.80460
2.73851	35.38720	42.78960	0.00000	0.93679
3.19496	35.65790	42.42220	0.00000	1.0799
3.65141	35.92860	42.05480	0.00000	1.2348
4.10786	36.19930	41.68740	0.00000	1.4024
4.56431	36.47000	41.32000	0.00000	1.5828

Structure: D | Sub-structure: D8

Dist.	Coordinates		Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]

Vertical Offset 1

0.0	36.47000	41.32000	0.00000	1.5828
0.47879	36.08257	41.03870	0.00000	1.5795
0.95758	35.69513	40.75739	0.00000	1.5762
1.43637	35.30770	40.47609	0.00000	1.5729
1.91516	34.92026	40.19478	0.00000	1.5696
2.39395	34.53283	39.91348	0.00000	1.5664
2.87274	34.14539	39.63217	0.00000	1.5631
3.35153	33.75796	39.35087	0.00000	1.5598
3.83032	33.37052	39.06957	0.00000	1.5566
4.30911	32.98309	38.78826	0.00000	1.5533
4.78790	32.59565	38.50696	0.00000	1.5501
5.26669	32.20822	38.22565	0.00000	1.5468
5.74548	31.82078	37.94435	0.00000	1.5436
6.22427	31.43335	37.66304	0.00000	1.5403
6.70306	31.04591	37.38174	0.00000	1.5371
7.18185	30.65848	37.10043	0.00000	1.5339
7.66064	30.27104	36.81913	0.00000	1.5306
8.13943	29.88361	36.53783	0.00000	1.5273
8.61822	29.49617	36.25652	0.00000	1.4888
9.09701	29.10874	35.97522	0.00000	1.4424
9.57580	28.72130	35.69391	0.00000	1.3888
10.05459	28.33387	35.41261	0.00000	1.3289
10.53338	27.94643	35.13130	0.00000	1.2636
11.01217	27.55900	34.85000	0.00000	1.1938

Specific Building Damage Results - All Segments

Structure: A | Sub-structure: A1

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Horizontal Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
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[m]	[m]	[m]	[%]	[%]	[%]	[m]	[m]	[m]	[m]	[m]	[m]	[m]
0.0	1	0.0	3.0866	Hogging	606.90E-6	0.034544	0.034780	-651.10E-6	-371.32E-6	25067.	0	(Negligible)
	2	3.0866	1.2174	Sagging	505.32E-6	0.065152	0.065308	-651.10E-6	-371.32E-6	34906.	1	(Very Slight)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: A | Sub-structure: A2

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	0.93965	Sagging	0.0	55.843E-6	55.826E-6	0.0	-9.8101E-6	2.4833E+9	0 (Negligible)
	2	0.93965	1.5734	Hogging	0.0	55.843E-6	55.826E-6	0.0	-9.8105E-6	1.2926E+9	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: A | Sub-structure: A3

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	0.62828	Hogging	41.583E-6	0.065152	0.065156	-651.10E-6	-338.00E-6	150640.	1 (Very Slight)
	2	0.62828	3.1537	Sagging	0.0038270	0.065152	0.068042	-651.10E-6	-338.00E-6	4152.1	1 (Very Slight)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: A | Sub-structure: A4

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	3.8980	Sagging	1.9102E-6	8.5448E-6	10.264E-6	0.0	0.0	25.166E+6	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: A | Sub-structure: A5

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	3.3782	Sagging	0.0036048	0.065174	0.068061	-651.31E-6	338.04E-6	4344.0	1 (Very Slight)
	2	3.3782	0.13777	Hogging	24.590E-6	0.065174	0.065174	-651.31E-6	337.11E-6	2.0994E+6	1 (Very Slight)
	3	3.5160	1.6385	Sagging	482.58E-6	0.063768	0.063967	-651.31E-6	362.66E-6	45570.	1 (Very Slight)
	4	5.1545	2.8345	Hogging	556.86E-6	0.034127	0.034326	-508.40E-6	362.66E-6	26928.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: A | Sub-structure: A6

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	6.3580	Hogging	1.3799E-6	12.319E-6	13.340E-6	0.0	6.0014E-6	56.083E+6	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B1

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	All settlements are less than the Settlement Trough Limit Sensitivity.										

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B2

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	All settlements are less than the Settlement Trough Limit Sensitivity.										

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B3

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	All settlements are less than the Settlement Trough Limit Sensitivity.										

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B4

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	All settlements are less than the Settlement Trough Limit Sensitivity.										

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B5

Vertical Offset from Line for Vertical Movement	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	



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Calculations

[m]	[m]	[m]	[%]	[%]	[%]	Curve	[m]				
0.0	1	3.9167	2.4473	Hogging	0.0016321	0.031874	0.032381	-318.64E-6	-176.06E-6	16220.	0

Tensile horizontal strains are +ve, compressive horizontal strains are -ve. (Negligible)

Structure: B | Sub-structure: B6

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	1.0680	Hogging	0.0	0.0	0.0	0.0	0.0	686.78E+6	0

Tensile horizontal strains are +ve, compressive horizontal strains are -ve. (Negligible)

Structure: B | Sub-structure: B7

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	1.1000	Hogging	741.35E-6	0.031869	0.031973	-318.58E-6	-247.12E-6	16223.	0

Tensile horizontal strains are +ve, compressive horizontal strains are -ve. (Negligible)

Structure: B | Sub-structure: B8

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	8.3969	Hogging	529.52E-6	-0.0012588	386.27E-6	158.40E-6	-74.577E-6	13972.	0
	2	8.3969	2.2171	Sagging	891.04E-6	-0.013887	0.0028218	158.40E-6	-63.837E-6	31034.	0

Tensile horizontal strains are +ve, compressive horizontal strains are -ve. (Negligible)

Structure: B | Sub-structure: B9

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	2.5960	Hogging	0.0020191	0.023171	0.023835	-247.48E-6	266.54E-6	15462.	0

Tensile horizontal strains are +ve, compressive horizontal strains are -ve. (Negligible)

Structure: B | Sub-structure: B10

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	1.7410	Sagging	256.61E-6	-0.0053068	0.0010713	58.484E-6	26.269E-6	82824.	0

Tensile horizontal strains are +ve, compressive horizontal strains are -ve. (Negligible)

Structure: B | Sub-structure: B11

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	1.4375	Hogging	701.98E-6	0.029532	0.029661	-298.82E-6	102.83E-6	20304.	0

Tensile horizontal strains are +ve, compressive horizontal strains are -ve. (Negligible)

Structure: B | Sub-structure: B12

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	All settlements are less than the Settlement Trough Limit Sensitivity.										

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B13

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	All settlements are less than the Settlement Trough Limit Sensitivity.										

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B14

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	All settlements are less than the Settlement Trough Limit Sensitivity.										

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B15

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	All settlements are less than the Settlement Trough Limit Sensitivity.										

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B16



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Vertical Offset from Line for Vertical Movement Calculations

Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
	[m]	[m]	[m]	[%]	[%]	[%]			[m]	
0.0										

All settlements are less than the Settlement Trough Limit Sensitivity. Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B17

Vertical Offset from Line for Vertical Movement Calculations

Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
	[m]	[m]	[m]	[%]	[%]	[%]			[m]	
0.0										

All settlements are less than the Settlement Trough Limit Sensitivity. Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B18

Vertical Offset from Line for Vertical Movement Calculations

Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
	[m]	[m]	[m]	[%]	[%]	[%]			[m]	
0.0										

All settlements are less than the Settlement Trough Limit Sensitivity. Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B19

Vertical Offset from Line for Vertical Movement Calculations

Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
	[m]	[m]	[m]	[%]	[%]	[%]			[m]	
0.0										

All settlements are less than the Settlement Trough Limit Sensitivity. Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B20

Vertical Offset from Line for Vertical Movement Calculations

Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
	[m]	[m]	[m]	[%]	[%]	[%]			[m]	
0.0										

All settlements are less than the Settlement Trough Limit Sensitivity. Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C1

Vertical Offset from Line for Vertical Movement Calculations

Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category	
	[m]	[m]	[m]	[%]	[%]	[%]			[m]		
0.0	1	0.0	4.1060	Sagging	0.0084332	0.063977	0.071904	-704.55E-6	502.00E-6	3636.1	1 (Very Slight)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C2

Vertical Offset from Line for Vertical Movement Calculations

Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category	
	[m]	[m]	[m]	[%]	[%]	[%]			[m]		
0.0	1	0.0	0.24383	None	0.0	60.877E-6	60.904E-6	0.0	16.773E-6	10228.	0 (Negligible)
	2	0.24383	3.1712	Sagging	0.0058891	-0.022981	0.0056510	351.44E-6	377.93E-6	4128.5	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C3

Vertical Offset from Line for Vertical Movement Calculations

Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category	
	[m]	[m]	[m]	[%]	[%]	[%]			[m]		
0.0	1	0.0	1.9472	Sagging	818.50E-6	0.026911	0.027309	-311.24E-6	429.45E-6	17040.	0 (Negligible)
	2	1.9472	0.98881	Hogging	175.92E-6	0.033834	0.033856	-346.47E-6	429.45E-6	56349.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C4

Vertical Offset from Line for Vertical Movement Calculations

Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category	
	[m]	[m]	[m]	[%]	[%]	[%]			[m]		
0.0	1	0.0	2.4230	Sagging	0.0019260	-0.014991	0.0031861	171.22E-6	-205.47E-6	6113.9	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C5

Vertical Offset from Line for Vertical Movement Calculations

Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category	
	[m]	[m]	[m]	[%]	[%]	[%]			[m]		
0.0	1	0.0	2.1100	Hogging	206.44E-6	0.0083672	0.0084226	-84.334E-6	204.18E-6	114140.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C6

Vertical Offset from Line for Vertical Movement Calculations

Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category	
	[m]	[m]	[m]	[%]	[%]	[%]			[m]		
0.0	1	0.0	6.0330	Hogging	0.0	5.5349E-6	5.8293E-6	0.0	-4.9084E-6	166.76E+6	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.



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Drg. Ref.

Made by

Date 22-Nov-2017

Checked

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
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Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C7

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
Calculations [m] 0.0	1	[m] 0.0	[m] 0.44300	Sagging [%] 0.0	0.051030	0.051030	-510.04E-6	-481.57E-6	[m] -	1 (Very Slight)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C8

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
Calculations [m] 0.0	1	[m] 0.0	[m] 4.9710	Hogging [%] 0.0	5.4493E-6	5.6148E-6	0.0	-5.1048E-6	[m] 194.50E+6	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C9

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
Calculations [m] 0.0	1	[m] 0.0	[m] 2.0541	Hogging [%] 695.22E-6	0.052894	0.053075	-544.77E-6	-547.93E-6	[m] 23698.1	1 (Very Slight)
	2	[m] 2.0541	[m] 0.56388	Sagging [%] 49.108E-6	0.055210	0.055217	-553.86E-6	-547.93E-6	[m] 100440.1	1 (Very Slight)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C10

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
Calculations [m] 0.0	1	[m] 0.0	[m] 2.0541	Hogging [%] 695.22E-6	0.052894	0.053075	-544.77E-6	-547.93E-6	[m] 23698.1	1 (Very Slight)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C11

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
Calculations [m] 0.0	1	[m] 0.0	[m] 4.9410	Sagging [%] 0.0091272	0.063075	0.072926	-708.14E-6	-534.77E-6	[m] 3562.2	1 (Very Slight)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C12

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
Calculations [m] 0.0	1	[m] 0.0	[m] 11.065	Sagging [%] 3.6969E-6	6.2724E-6	11.909E-6	0.0	-1.7955E-6	[m] 36.888E+6	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: D | Sub-structure: D1

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
Calculations [m] 0.0	1	[m] 0.0	[m] 3.5485	Hogging [%] 0.0015138	0.029196	0.029870	-382.53E-6	300.91E-6	[m] 21562.0	0 (Negligible)
	2	[m] 3.5485	[m] 0.81050	Sagging [%] 119.31E-6	0.027025	0.027050	-271.50E-6	204.75E-6	[m] 72659.0	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: D | Sub-structure: D2

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
Calculations [m] 0.0	1	[m] 0.0	[m] 0.98091	Sagging [%] 131.05E-6	284.54E-6	328.48E-6	-9.8796E-6	61.663E-6	[m] 92119.0	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: D | Sub-structure: D3

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
Calculations [m] 0.0	All settlements are less than the Settlement Trough Limit Sensitivity.									

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: D | Sub-structure: D4

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
Calculations [m] 0.0	All settlements are less than the Settlement Trough Limit Sensitivity.									

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: D | Sub-structure: D5



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Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0		[m] 1 2.6505	[m] 0.15988	Sagging	[%] 0.0	[%] 0.031873	[%] 0.031873	-318.63E-6	-251.88E-6	[m] 12468.	0 (Negligible)
		2 2.8104	0.28161	Sagging	0.0	0.031873	0.031873	-318.63E-6	-238.39E-6	7078.8	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: D | Sub-structure: D6

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0		[m] 1 0.0	[m] 1.1600	Sagging	[%] 0.0	[%] 2.0478E-6	[%] 2.0385E-6	0.0	1.8783E-6	[m] 1.1068E+9	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: D | Sub-structure: D7

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0		[m] 1 0.0	[m] 0.14812	None	[%] 0.0	[%] 0.031872	[%] 0.031872	-318.62E-6	-232.27E-6	[m] 449540.	0 (Negligible)
		2 0.14812	4.4149	Hogging	0.0024258	0.038121	0.039448	-497.97E-6	-395.11E-6	16101.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: D | Sub-structure: D8

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0		[m] 1 0.0	[m] 6.8050	Hogging	[%] 1.4806E-6	[%] 14.064E-6	[%] 15.271E-6	0.0	6.8685E-6	[m] 57.400E+6	0 (Negligible)
		2 6.8050	4.2070	Sagging	0.0023777	-0.0061224	0.0017881	100.72E-6	145.69E-6	11855.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Specific Building Damage Results - Critical Values for All Segments within Each Sub-Structure

Structure: A | Sub-structure: A1

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m] 0.0	[%] 606.90E-6	[%] 0.065152	-371.32E-6	[mm] 2.3593	[%] 0.065308	-651.10E-6	-371.32E-6	[m] 25067.	[m] 34906.1	1 (Very Slight)

Structure: A | Sub-structure: A2

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m] 0.0	[%] 0.0	[%] 55.843E-6	-9.8105E-6	[mm] 2.3841	[%] 55.826E-6	0.0	-9.8105E-6	[m] 1.2926E+9	[m] 2.4833E+9	0 (Negligible)

Structure: A | Sub-structure: A3

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m] 0.0	[%] 0.0038270	[%] 0.065152	-338.00E-6	[mm] 3.3988	[%] 0.068042	-651.10E-6	-338.00E-6	[m] 150640.	[m] 4152.11	1 (Very Slight)

Structure: A | Sub-structure: A4

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m] 0.0	[%] 1.9102E-6	[%] 8.5448E-6	0.0	[mm] 3.3989	[%] 10.264E-6	0.0	0.0	[m] -25.166E+6	[m] 0	0 (Negligible)

Structure: A | Sub-structure: A5

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m] 0.0	[%] 0.0036048	[%] 0.065174	362.66E-6	[mm] 3.3982	[%] 0.068061	-651.31E-6	362.66E-6	[m] 26928.	[m] 4344.01	1 (Very Slight)

Structure: A | Sub-structure: A6

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m] 0.0	[%] 1.3799E-6	[%] 12.319E-6	6.0014E-6	[mm] 0.92831	[%] 13.340E-6	0.0	6.0014E-6	[m] 56.083E+6	[m] -0	0 (Negligible)

Structure: B | Sub-structure: B1

Vertical Offset from	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Min Radius of Curvature	Damage Category



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Line for Vertical Movement Calculations	Strain	Strain	Horizontal Displacement	Displacement Curve	Curvature (Hogging)	Curvature (Sagging)				
[m]	[%]	[%]	[mm]	[%]	[m]	[m]				
Structure: B Sub-structure: B2										
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
Structure: B Sub-structure: B3										
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
Structure: B Sub-structure: B4										
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
Structure: B Sub-structure: B5										
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0016321	0.031874	-176.06E-6	0.41518	0.032381	-318.64E-6	-176.06E-6	16220.		- 0 (Negligible)
Structure: B Sub-structure: B6										
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0	0.0	0.0	0.41629	0.0	0.0	0.0	686.78E+6		- 0 (Negligible)
Structure: B Sub-structure: B7										
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	741.35E-6	0.031869	-247.12E-6	0.66395	0.031973	-318.58E-6	-247.12E-6	16223.		- 0 (Negligible)
Structure: B Sub-structure: B8										
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	891.04E-6	-0.013887	-74.577E-6	0.78088	0.0028218	158.40E-6	-74.577E-6	13972.	31034.	0 (Negligible)
Structure: B Sub-structure: B9										
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0020191	0.023171	266.54E-6	0.78088	0.023835	-247.48E-6	266.54E-6	15462.		- 0 (Negligible)
Structure: B Sub-structure: B10										
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	256.61E-6	-0.0053068	26.269E-6	0.26657	0.0010713	58.484E-6	26.269E-6		82824.	0 (Negligible)
Structure: B Sub-structure: B11										
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	701.98E-6	0.029532	102.83E-6	0.23419	0.029661	-298.82E-6	102.83E-6	20304.		- 0 (Negligible)
Structure: B Sub-structure: B12										
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
Structure: B Sub-structure: B13										



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Vertical Offset from Line for Vertical	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Structure: B Sub-structure: B14										
Calculations [m]	[%]	[%]		[mm]	[%]			[m]	[m]	
Structure: B Sub-structure: B15										
Calculations [m]	[%]	[%]		[mm]	[%]			[m]	[m]	
Structure: B Sub-structure: B16										
Calculations [m]	[%]	[%]		[mm]	[%]			[m]	[m]	
Structure: B Sub-structure: B17										
Calculations [m]	[%]	[%]		[mm]	[%]			[m]	[m]	
Structure: B Sub-structure: B18										
Calculations [m]	[%]	[%]		[mm]	[%]			[m]	[m]	
Structure: B Sub-structure: B19										
Calculations [m]	[%]	[%]		[mm]	[%]			[m]	[m]	
Structure: B Sub-structure: B20										
Calculations [m]	[%]	[%]		[mm]	[%]			[m]	[m]	
Structure: C Sub-structure: C1										
Calculations [m]	[%]	[%]	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
0.0	0.0084332	0.063977	502.00E-6	5.1822	0.071904	-704.55E-6	502.00E-6	[m]	-	3636.1 1 (Very Slight)
Structure: C Sub-structure: C2										
Calculations [m]	[%]	[%]	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
0.0	0.0058891	-0.022981	377.93E-6	4.0587	0.0056510	351.44E-6	377.93E-6	[m]	-	4128.5 0 (Negligible)
Structure: C Sub-structure: C3										
Calculations [m]	[%]	[%]	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
0.0	818.50E-6	0.033834	429.45E-6	3.2736	0.033856	-346.47E-6	429.45E-6	[m]	[m]	56349. 17040. 0 (Negligible)
Structure: C Sub-structure: C4										
Calculations [m]	[%]	[%]	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
0.0	0.0019260	-0.014991	-205.47E-6	2.4259	0.0031861	171.22E-6	-205.47E-6	[m]	-	6113.9 0 (Negligible)



A-SQUARED STUDIO

1_8StCuthber_install_excav_Contig&Underpin_Scaled-0.85

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Vertical Offset from Line for Vertical	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Structure: C Sub-structure: C5										
Calculations	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	206.44E-6	0.0083672	204.18E-6	2.4259	0.0084226	-84.334E-6	204.18E-6	114140.	-	0 (Negligible)
Structure: C Sub-structure: C6										
Calculations	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0	5.5349E-6	-4.9084E-6	2.0386	5.8293E-6	0.0	-4.9084E-6	166.76E+6	-	0 (Negligible)
Structure: C Sub-structure: C7										
Calculations	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0	0.051030	-481.57E-6	2.2520	0.051030	-510.04E-6	-481.57E-6	-	-	1 (Very Slight)
Structure: C Sub-structure: C8										
Calculations	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0	5.4493E-6	-5.1048E-6	2.2775	5.6148E-6	0.0	-5.1048E-6	194.50E+6	-	0 (Negligible)
Structure: C Sub-structure: C9										
Calculations	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	695.22E-6	0.055210	-547.93E-6	3.6751	0.055217	-553.86E-6	-547.93E-6	23698.	100440.	1 (Very Slight)
Structure: C Sub-structure: C10										
Calculations	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0	5.9096E-6	5.5727E-6	3.6754	5.9009E-6	0.0	5.5727E-6	-	434.17E+6	0 (Negligible)
Structure: C Sub-structure: C11										
Calculations	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0091272	0.063075	-534.77E-6	5.1795	0.072926	-708.14E-6	-534.77E-6	-	3562.2	1 (Very Slight)
Structure: C Sub-structure: C12										
Calculations	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	3.6969E-6	6.2724E-6	-1.7955E-6	5.1389	11.909E-6	0.0	-1.7955E-6	-	36.888E+6	0 (Negligible)
Structure: D Sub-structure: D1										
Calculations	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0015138	0.029196	300.91E-6	1.1938	0.029870	-382.53E-6	300.91E-6	21562.	72659.	0 (Negligible)
Structure: D Sub-structure: D2										
Calculations	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	131.05E-6	284.54E-6	61.663E-6	0.17032	328.48E-6	-9.8796E-6	61.663E-6	-	92119.	0 (Negligible)
Structure: D Sub-structure: D3										
Calculations	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0										
Structure: D Sub-structure: D4										
Calculations	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0										

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Vertical Movement Calculations	Displacement Curve	Curve (Hogging)	(Sagging)	Damage Category						
[m]	[mm]	[m]	[m]							
Structure: D Sub-structure: D5										
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0	0.031873	-251.88E-6	0.24733	0.031873	-318.63E-6	-251.88E-6	-	7078.8	0 (Negligible)
Structure: D Sub-structure: D6										
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0	2.0478E-6	1.8783E-6	0.24739	2.0385E-6	0.0	1.8783E-6	-	1.1068E+9	0 (Negligible)
Structure: D Sub-structure: D7										
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0024258	0.038121	-395.11E-6	1.5825	0.039448	-497.97E-6	-395.11E-6	16101.	-	0 (Negligible)
Structure: D Sub-structure: D8										
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0023777	-0.0061224	145.69E-6	1.5828	0.0017881	100.72E-6	145.69E-6	57.400E+6	11855.	0 (Negligible)

Specific Building Damage Results - Critical Segments within Each Structure

Structure Name	Parameter	Critical Sub-Structure	Critical Segment	Start	End	Curvature	Max Slope	Max Settlement	Max Tensile Strain	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
				[m]	[m]			[mm]	[%]	[m]	[m]	
A	Max Slope	A1	1	0.0	3.0866	Hogging	371.32E-6	1.9356	0.034780	25067.	-	0 (Negligible)
	Max Settlement	A4	1	0.0	3.8980	Sagging	0.0	3.3989	10.264E-6	-	25.166E+6	0 (Negligible)
	Max Tensile Strain	A5	1	0.0	3.3782	Sagging	338.04E-6	3.3982	0.068061	-	4344.0	1 (Very Slight)
	Min Radius of Curvature (Hogging)	A1	1	0.0	3.0866	Hogging	371.32E-6	1.9356	0.034780	25067.	-	0 (Negligible)
	Min Radius of Curvature (Sagging)	A3	2	0.62828	3.7820	Sagging	338.00E-6	3.3988	0.068042	-	4152.1	1 (Very Slight)
B	Max Slope	B9	1	0.0	2.5960	Hogging	266.54E-6	0.78088	0.023835	15462.	-	0 (Negligible)
	Max Settlement	B9	1	0.0	2.5960	Hogging	266.54E-6	0.78088	0.023835	15462.	-	0 (Negligible)
	Max Tensile Strain	B5	1	3.9167	6.3640	Hogging	176.06E-6	0.41518	0.032381	16220.	-	0 (Negligible)
	Min Radius of Curvature (Hogging)	B8	1	0.0	8.3969	Hogging	74.577E-6	0.71312	386.27E-6	13972.	-	0 (Negligible)
Min Radius of Curvature (Sagging)	B8	2	8.3969	10.614	Sagging	63.837E-6	0.78088	0.0028218	-	31034.	0 (Negligible)	
C	Max Slope	C9	1	0.0	2.0541	Hogging	547.93E-6	3.3672	0.053075	23698.	-	1 (Very Slight)
	Max Settlement	C1	1	0.0	4.1060	Sagging	502.00E-6	5.1822	0.071904	-	3636.1	1 (Very Slight)
	Max Tensile Strain	C11	1	0.0	4.9410	Sagging	534.77E-6	5.1795	0.072926	-	3562.2	1 (Very Slight)
	Min Radius of Curvature (Hogging)	C9	1	0.0	2.0541	Hogging	547.93E-6	3.3672	0.053075	23698.	-	1 (Very Slight)
Min Radius of Curvature (Sagging)	C11	1	0.0	4.9410	Sagging	534.77E-6	5.1795	0.072926	-	3562.2	1 (Very Slight)	
D	Max Slope	D7	2	0.14812	4.5630	Hogging	395.11E-6	1.5825	0.039448	16101.	-	0 (Negligible)
	Max Settlement	D8	1	0.0	6.8050	Hogging	6.8685E-6	1.5828	15.271E-6	57.400E+6	-	0 (Negligible)
	Max Tensile Strain	D7	2	0.14812	4.5630	Hogging	395.11E-6	1.5825	0.039448	16101.	-	0 (Negligible)
	Min Radius of Curvature (Hogging)	D7	2	0.14812	4.5630	Hogging	395.11E-6	1.5825	0.039448	16101.	-	0 (Negligible)
	Min Radius of Curvature (Sagging)	D5	2	2.8104	3.0920	Sagging	238.39E-6	0.24733	0.031873	-	7078.8	0 (Negligible)

Xdisp Input and Output

Model: Long-term scheme



Problem Type

Problem Type : Tunnelling and Embedded Wall Excavations

Displacement Data

Table with columns: Type, Name, Direction of extrusion, Point/Line/Line for extrusion (First point X, Y, Z, Second point X, Y, Z), No. of intervals across extrusion/line, Extrusion depth, No. of intervals along extrusion, Calculate, Surface type for tunnels. Rows include Line A1 through Line D8 and Grid 1.

Vertical Ground Movement Curves (Excavations)

Curve Name: No vertical ground movement
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Settlement / wall depth or max. excavation depth (z)(%)]
Curve Fitting Method: Polynomial
x Order: 1
y Order: 0
Polynomial: z = 0.0x + 0.0
Coeff. of -2147483648.E+2147483647

Curve Name: Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(b))
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Settlement / wall depth or max. excavation depth (z)(%)]
Curve Fitting Method: Polynomial
x Order: 1
y Order: 0
Polynomial: z = -2.0E-2x + 4.0E-2
Coeff. of 1.0

Curve Name: Installation of planar diaphragm wall in stiff clay (CIRIA 580 Fig. 2.9(b))
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Settlement / wall depth or max. excavation depth (z)(%)]
Curve Fitting Method: Polynomial
x Order: 4
y Order: 0
Polynomial: z = -1.2355E-2x^4 + 3.4814E-2x^3 - 2.8885E-3x^2 - 6.5618E-2x + 4.9987E-2
Coeff. of 1.0000

Curve Name: Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(b))
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Settlement / wall depth or max. excavation depth (z)(%)]
Curve Fitting Method: Polynomial
x Order: 4
y Order: 0
Polynomial: z = -2.6455E-3x^4 + 2.8495E-2x^3 - 1.0051E-1x^2 + 1.0569E-1x + 3.8990E-2
Coeff. of 9.9991E-1

Horizontal Ground Movement Curves (Excavations)



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Type Name Direction of extrusion Point/Line/Line for extrusion No. of intervals across extrusion/line Extrusion depth No. of intervals along extrusion Calculate Surface type for tunnels

Curve Name: No horizontal ground movement
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Horizontal movement / wall depth or max. excavation depth (z)](%)
 [0.000,0.000,0.000][1.000,0.000,0.000][0.000,1.000,0.000][1.000,1.000,0.000]
Curve Fitting Method: Polynomial
x Order: 0
y Order: 0
Polynomial: z = 0.0
Coeff. of -2147483648.E+2147483647
Determination:

Curve Name: Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(a))
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Horizontal movement / wall depth or max. excavation depth (z)](%)
 [0.000,0.000,0.041][0.050,0.000,0.039][0.100,0.000,0.036][0.150,0.000,0.034][0.200,0.000,0.032][0.250,0.000,0.030][0.300,0.000,0.029][0.350,0.000,0.027][0.400,0.000,0.025][0.450,0.000,0.023][0.500,0.000,0.022][0.550,0.000,0.020][0.600,0.000,0.019][0.650,0.000,0.018][0.700,0.000,0.016][0.750,0.000,0.015][0.800,0.000,0.014][0.850,0.000,0.013][0.900,0.000,0.012][0.950,0.000,0.010][1.000,0.000,0.009][1.050,0.000,0.008][1.100,0.000,0.007][1.150,0.000,0.006][1.200,0.000,0.005][1.250,0.000,0.004][1.300,0.000,0.004][1.350,0.000,0.003][1.400,0.000,0.002][1.450,0.000,0.001][1.500,0.000,0.000]
Curve Fitting Method: Polynomial
x Order: 3
y Order: 0
Polynomial: z = -4.2486E-3x³ + 1.9096E-2x² - 4.6221E-2x + 4.0729E-2
Coeff. of 1.0000
Determination:

Curve Name: Installation of planar diaphragm wall in stiff clay (CIRIA 580 Fig. 2.9(a))
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Horizontal movement / wall depth or max. excavation depth (z)](%)
 [0.000,0.000,0.050][1.500,0.000,0.000]
Curve Fitting Method: Polynomial
x Order: 1
y Order: 0
Polynomial: z = -3.33E-2x + 5.00E-2
Coeff. of 1.00
Determination:

Curve Name: Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(a))
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Horizontal movement / wall depth or max. excavation depth (z)](%)
 [0.000,0.000,0.150][4.000,0.000,0.000]
Curve Fitting Method: Polynomial
x Order: 1
y Order: 0
Polynomial: z = -3.75E-2x + 1.50E-1
Coeff. of 1.00
Determination:

Polygonal Excavations

Excavation Name: InstallContig
Surface level [m]: 0.0
Contribution: Positive
Enabled: Yes

Corner	x	y	Base Level	Stiffened	Previous Side	Next Side
	[m]	[m]	[m]	d	pl p2*	d pl p2*
	[m]	[m]	[m]	[m]	[%] [%]	[m] [%] [%]
1	36.252	28.072	-8.0000	No	- -	- -
2	48.423	37.225	-8.0000	No	- -	- -
3	55.142	28.291	-8.0000	No	- -	- -
4	42.970	19.138	-8.0000	No	- -	- -

Side	Corner 1		Corner 2		Ground Movement Curve	
	x	y	x	y	Vertical	Horizontal
	[m]	[m]	[m]	[m]	[m]	[m]
1	36.252	28.072	48.423	37.225	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(b))	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(a))
2	48.423	37.225	55.142	28.291	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(b))	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(a))
3	55.142	28.291	42.970	19.138	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(b))	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(a))
4	42.970	19.138	36.252	28.072	No vertical ground movement	No horizontal ground movement

Excavation Name: Excavate
Surface level [m]: 0.0
Contribution: Positive
Enabled: Yes

Corner	x	y	Base Level	Stiffened	Previous Side	Next Side
	[m]	[m]	[m]	d	pl p2*	d pl p2*
	[m]	[m]	[m]	[m]	[%] [%]	[m] [%] [%]
1	36.252	28.072	-4.0000	No	- -	- -
2	48.423	37.225	-4.0000	No	- -	- -
3	55.142	28.291	-4.0000	No	- -	- -
4	42.970	19.138	-4.0000	No	- -	- -

Side	Corner 1		Corner 2		Ground Movement Curve	
	x	y	x	y	Vertical	Horizontal
	[m]	[m]	[m]	[m]	[m]	[m]
1	36.252	28.072	48.423	37.225	Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(b))	Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(a))
2	48.423	37.225	55.142	28.291	Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(b))	Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(a))
3	55.142	28.291	42.970	19.138	Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(b))	Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(a))
4	42.970	19.138	36.252	28.072	Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(b))	Excavation in front of high stiffness wall in stiff clay (CIRIA 580 Fig. 2.11(a))

Excavation Name: InstalUnderpin
Surface level [m]: 0.0
Contribution: Positive
Enabled: Yes

Corner	x	y	Base Level	Stiffened	Previous Side	Next Side
	[m]	[m]	[m]	d	pl p2*	d pl p2*
	[m]	[m]	[m]	[m]	[%] [%]	[m] [%] [%]
1	36.252	28.072	-4.0000	No	- -	- -
2	48.423	37.225	-4.0000	No	- -	- -
3	55.142	28.291	-4.0000	No	- -	- -
4	42.970	19.138	-4.0000	No	- -	- -

Side	Corner 1		Corner 2		Ground Movement Curve	
	x	y	x	y	Vertical	Horizontal
	[m]	[m]	[m]	[m]	[m]	[m]
1	36.252	28.072	48.423	37.225	No vertical ground movement	No horizontal ground movement



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Made by	Date	Checked
	08-Nov-2017	

Side	Corner 1		Corner 2		Ground Movement Curve	
	x [m]	y [m]	x [m]	y [m]	Vertical	Horizontal
2	48.423	37.225	55.142	28.291	No vertical ground movement	No horizontal ground movement
3	55.142	28.291	42.970	19.138	No vertical ground movement	No horizontal ground movement
4	42.970	19.138	36.252	28.072	Installation of planar diaphragm wall in stiff clay (CIRIA 580 Fig. 2.9(b))	Installation of planar diaphragm wall in stiff clay (CIRIA 580 Fig. 2.9(a))

Damage Category Strains

Name	0 (Negligible) to 1 (Very slight)	1 (Very slight) to 2 (slight)	2 (slight) to 3 (Moderate)	3 (Moderate) to 4 (Severe)
Burland Strain Limits	0.0	500.00E-6	750.00E-6	0.0015000

Specific Structures - Geometry

Structure Name	Sub-Structure Name	Displacement Line	Start Distance Along Line	End Distance Along Line	Vertical Offsets from Line for Vertical Movement Calculations	Vertical Displacement Limit Sensitivity	Damage Category Strains	Poisson's Ratio	E/G
A	A1	A1	0.00000	4.30400	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
A	A2	A2	0.00000	2.51300	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
A	A3	A3	0.00000	3.78200	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
A	A4	A4	0.00000	3.89800	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
A	A5	A5	0.00000	7.98900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
A	A6	A6	0.00000	4.35800	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
B	B1	B1	0.00000	3.89700	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
B	B2	B2	0.00000	0.92200	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
B	B3	B3	0.00000	5.16000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
B	B4	B4	0.00000	1.08100	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
B	B5	B5	0.00000	6.35400	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
B	B6	B6	0.00000	1.06800	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
B	B7	B7	0.00000	1.10000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
B	B8	B8	0.00000	10.61400	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
B	B9	B9	0.00000	2.59600	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
B	B10	B10	0.00000	1.74100	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
B	B11	B11	0.00000	2.39500	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
B	B12	B12	0.00000	0.94600	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
B	B13	B13	0.00000	2.75600	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
B	B14	B14	0.00000	2.21700	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
B	B15	B15	0.00000	4.42200	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
B	B16	B16	0.00000	4.44100	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
B	B17	B17	0.00000	1.95300	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
B	B18	B18	0.00000	1.31900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
B	B19	B19	0.00000	2.36500	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
B	B20	B20	0.00000	5.07200	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
C	C1	C1	0.00000	4.10600	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
C	C2	C2	0.00000	3.41500	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
C	C3	C3	0.00000	2.93600	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
C	C4	C4	0.00000	2.42300	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
C	C5	C5	0.00000	2.11000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
C	C6	C6	0.00000	6.03300	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
C	C7	C7	0.00000	0.44300	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
C	C8	C8	0.00000	4.97100	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
C	C9	C9	0.00000	2.61800	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
C	C10	C10	0.00000	0.82300	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
C	C11	C11	0.00000	4.94100	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
C	C12	C12	0.00000	11.06500	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
D	D1	D1	0.00000	4.35900	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
D	D2	D2	0.00000	3.92300	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
D	D3	D3	0.00000	3.33300	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
D	D4	D4	0.00000	16.01300	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
D	D5	D5	0.00000	3.09200	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
D	D6	D6	0.00000	1.16000	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
D	D7	D7	0.00000	4.56300	0.0	0.10000	Burland Strain Limits	0.20000	2.6000
D	D8	D8	0.00000	11.01200	0.0	0.10000	Burland Strain Limits	0.20000	2.6000

Specific Structures - Bending Parameters

Structure Name	Sub-Structure Name	Height [m]	Default Properties	Hogging			Sagging		
				2nd Moment of Area (per unit width)	Distance of N.A. from N.A.	Distance of N.A. from Edge of Beam in Tension	2nd Moment of Area (per unit width)	Distance of N.A. from N.A.	Distance of N.A. from Edge of Beam in Tension
A	A1	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
A	A2	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
A	A3	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
A	A4	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
A	A5	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
A	A6	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
B	B1	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
B	B2	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
B	B3	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
B	B4	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
B	B5	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
B	B6	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
B	B7	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
B	B8	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
B	B9	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
B	B10	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
B	B11	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
B	B12	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
B	B13	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
B	B14	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
B	B15	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
B	B16	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
B	B17	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
B	B18	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
B	B19	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
B	B20	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
C	C1	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
C	C2	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
C	C3	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
C	C4	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
C	C5	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
C	C6	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
C	C7	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
C	C8	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
C	C9	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
C	C10	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
C	C11	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
C	C12	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
D	D1	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
D	D2	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
D	D3	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
D	D4	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
D	D5	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
D	D6	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
D	D7	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000
D	D8	6.0000	Yes	72.000	6.0000	6.0000	18.000	3.0000	3.0000

Building Segment Combinations

Structure Name	Sub-Structure Name	Vertical Offset from Line for Vertical Movement Calculations	Segment Start	Length	Curvature	Combined Segment

Job No.	Sheet No.	Rev.
Drg. Ref.		
Made by	Date	Checked
	08-Nov-2017	

No structures have segments combined. [m] [m] [m]

Utility Strain Calculation Options

Neglect beneficial contribution of axial strains : No

Warnings

1 Multiple excavations have been specified. The displacements resulting from these excavations are calculated by summing the displacements resulting from each individual excavation. No account has been taken of the interactions between excavations (e.g. overlapping zones of influence or 'shielding' of one excavation by another).

Errors

None

Displacement and Strain Results

Type/No.	Coordinates	Displacements			Angle of Line			
Name	Dist.	x	y	z	to x Axis			
		x	y	z				
		Horizontal displacement along Line	Horizontal displacement perpendicular to Line					
		[mm]	[mm]	[mm]	[°]			
A1 Line 1	29.27700	24.7000	0.0000	2.1473	1.6148	2.6855	-0.078803	38.624 *
0.47829	29.95067	22.54556	0.0000	2.1906	2.1440	2.8647	-0.084061	38.624 *
0.95658	30.32433	22.84411	0.0000	2.4339	1.8303	2.4189	-0.089319	38.624 *
1.4349	30.69800	23.14267	0.0000	2.5771	1.9380	2.7111	-0.094578	38.624 *
1.9132	31.07167	23.44122	0.0000	2.7204	2.0458	3.0184	-0.099836	38.624 *
2.3915	31.44533	23.73978	0.0000	2.8637	2.1536	3.3386	-0.105059	38.624 *
2.8697	31.81900	24.03833	0.0000	3.0153	2.2679	3.6716	-0.110369	38.624 *
3.3480	32.19267	24.33689	0.0000	3.2665	2.4715	4.0339	-0.12061	38.624 *
3.8263	32.56633	24.63544	0.0000	3.5571	2.6750	4.4022	-0.13054	38.624 *
4.3046	32.94000	24.93400	0.0000	3.8278	2.8785	4.7864	-0.14047	38.624 *
A2 Line 2	32.94000	24.93400	0.0000	3.8278	2.8785	4.7864	-0.14047	38.624 *
0.41896	33.20150	24.60667	0.0000	3.8347	2.8838	4.8810	-0.14143	38.624 *
0.83792	33.46300	24.27933	0.0000	3.8416	2.8890	4.9730	-0.14066	38.624 *
1.2569	33.72450	23.95200	0.0000	3.8486	2.8942	5.0611	-0.14092	38.624 *
1.6758	33.98600	23.62467	0.0000	3.8555	2.8994	5.1444	-0.14117	38.624 *
2.0948	34.24750	23.29733	0.0000	3.8625	2.9046	5.2239	-0.14143	38.624 *
2.5138	34.50900	22.97000	0.0000	3.8694	2.9098	5.2926	-0.14169	38.624 *
A3 Line 3	34.50900	22.97000	0.0000	3.8694	2.9098	5.2926	-0.14169	38.624 *
0.47280	34.87837	23.26512	0.0000	4.1369	3.1110	5.7892	-0.15181	38.624 *
0.94559	35.24775	23.56025	0.0000	4.4045	3.3122	6.3392	-0.16163	38.624 *
1.4184	35.61713	23.85537	0.0000	4.6720	3.5134	6.9559	-0.17144	38.624 *
1.8912	35.98650	24.15050	0.0000	4.9396	3.7146	7.5778	-0.18126	38.624 *
2.3640	36.35587	24.44563	0.0000	5.2071	3.9158	8.2000	-0.19108	38.624 *
2.8368	36.72525	24.74075	0.0000	5.4747	4.1170	8.8222	-0.20090	38.624 *
3.3096	37.09463	25.03588	0.0000	5.7422	4.3182	9.4444	-0.21071	38.624 *
3.7824	37.46400	25.33100	0.0000	6.0098	4.5194	10.0666	-0.22053	38.624 *
A4 Line 4	37.46400	25.33100	0.0000	6.0098	4.5194	10.0666	-0.22053	38.624 *
0.48725	37.75238	24.93825	0.0000	6.0066	4.5171	12.779	-0.086032	38.624 *
0.97450	38.04075	24.54550	0.0000	6.0034	4.5147	13.100	-0.085986	38.624 *
1.4618	38.32912	24.15275	0.0000	6.0003	4.5123	13.279	-0.085941	38.624 *
1.9490	38.61750	23.76000	0.0000	5.9971	4.5099	13.352	-0.085896	38.624 *
2.4363	38.90588	23.36725	0.0000	5.9940	4.5076	13.329	-0.085851	38.624 *
2.9235	39.19425	22.97450	0.0000	5.9908	4.5052	13.201	-0.085805	38.624 *
3.4108	39.48262	22.58175	0.0000	5.9877	4.5028	12.930	-0.085760	38.624 *
3.8980	39.77100	22.18900	0.0000	5.9845	4.5004	12.493	-0.085715	38.624 *
A5 Line 5	39.77100	22.18900	0.0000	5.9845	4.5004	12.493	-0.085715	38.624 *
0.49935	39.37894	21.87975	0.0000	5.7019	4.2879	10.767	-0.1323	218.27 *
0.99870	38.98687	21.57050	0.0000	5.4193	4.0754	9.4922	-0.16788	218.27 *
1.4980	38.59481	21.26125	0.0000	5.1366	3.8628	8.2000	-0.20343	218.27 *
1.9974	38.20275	20.95200	0.0000	4.8540	3.6503	7.0128	-0.23908	218.27 *
2.4967	37.81069	20.64275	0.0000	4.5714	3.4378	5.8256	-0.27473	218.27 *
2.9961	37.41862	20.33350	0.0000	4.2888	3.2252	4.6500	-0.31038	218.27 *
3.4954	37.02656	20.02425	0.0000	4.0062	3.0127	3.4744	-0.34603	218.27 *
3.9948	36.63450	19.71500	0.0000	3.7236	2.8002	2.3000	-0.38168	218.27 *
4.4941	36.24244	19.40575	0.0000	3.4410	2.5877	1.1250	-0.41733	218.27 *
4.9935	35.85038	19.09650	0.0000	3.1583	2.3751	0.0000	-0.45298	218.27 *
5.4928	35.45831	18.78725	0.0000	2.8757	2.1626	0.0000	-0.48863	218.27 *
5.9922	35.06625	18.47800	0.0000	2.5930	1.9500	0.0000	-0.52428	218.27 *
6.4915	34.67419	18.16875	0.0000	2.3104	1.7375	0.0000	-0.55993	218.27 *
6.9909	34.28213	17.85950	0.0000	2.0278	1.5250	0.0000	-0.59558	218.27 *
7.4902	33.89006	17.55025	0.0000	1.7452	1.3125	0.0000	-0.63123	218.27 *
7.9896	33.49800	17.24100	0.0000	1.4626	1.1000	0.0000	-0.66688	218.27 *
A6 Line 6	33.49800	17.24100	0.0000	1.4626	1.1000	0.0000	-0.66688	218.27 *
0.48914	33.19638	17.62608	0.0000	2.1819	1.6408	2.0882	-0.053741	-2.7330
0.97828	32.89477	18.01115	0.0000	2.1790	1.6386	2.0878	-0.053599	-2.7258
1.4674	32.59315	18.39622	0.0000	2.1761	1.6365	2.0874	-0.053457	-2.7186
1.9566	32.29154	18.78131	0.0000	2.1732	1.6343	2.0772	-0.053315	-2.7114
2.4457	31.98992	19.16638	0.0000	2.1703	1.6321	2.0671	-0.053173	-2.7042
2.9348	31.68831	19.55146	0.0000	2.1675	1.6300	2.0539	-0.053031	-2.6970
3.4240	31.38669	19.93654	0.0000	2.1646	1.6278	2.0377	-0.052889	-2.6900
3.9131	31.08508	20.32162	0.0000	2.1617	1.6256	2.0196	-0.052747	-2.6830
4.4022	30.78346	20.70669	0.0000	2.1588	1.6235	1.9968	-0.052605	-2.6760
4.8914	30.48185	21.09177	0.0000	2.1559	1.6213	1.9726	-0.052463	-2.6690
5.3805	30.18023	21.47685	0.0000	2.1530	1.6191	1.9462	-0.052321	-2.6620
5.8697	29.87862	21.86193	0.0000	2.1502	1.6170	1.9197	-0.052179	-2.6550
6.3588	29.57700	22.24700	0.0000	2.1473	1.6148	1.8939	-0.052037	-2.6480
B1 Line 7	20.51600	5.45800	0.0000	0.0	0.0	0.027659	0.0	36.823 *
0.48720	20.90600	5.75000	0.0000	0.0	0.0	0.031377	0.0	36.823 *
0.97440	21.29600	6.04200	0.0000	0.0	0.0	0.035422	0.0	36.823 *
1.4616	21.68600	6.33400	0.0000	0.0	0.0	0.039820	0.0	36.823 *
1.9488	22.07600	6.62600	0.0000	0.0	0.0	0.044004	0.0	36.823 *
2.4360	22.46600	6.91800	0.0000	0.0	0.0	0.048908	0.0	36.823 *
2.9232	22.85600	7.21000	0.0000	0.0	0.0	0.054662	0.0	36.823 *
3.4104	23.24600	7.50200	0.0000	0.0	0.0	0.061625	0.0	36.823 *
3.8976	23.63600	7.79400	0.0000	0.0	0.0	0.068325	0.0	36.823 *
B2 Line 8	23.63600	7.79400	0.0000	0.0	0.0	0.068325	0.0	36.823 *
0.46125	23.35400	8.15900	0.0000	0.0	0.0	0.068904	0.0	127.69 *
0.92249	23.07200	8.52400	0.0000	0.0	0.0	0.069379	0.0	127.69 *
B3 Line 9	23.07200	8.52400	0.0000	0.0	0.0	0.069379	0.0	37.252 *
0.46917	23.44545	8.80800	0.0000	0.0	0.0	0.076508	0.0	37.252 *
0.9335	23.81891	9.09200	0.0000	0.0	0.0	0.084246	0.0	37.252 *
1.4075	24.19236	9.37600	0.0000	0.0	0.0	0.092648	0.0	37.252 *
1.8767	24.56582	9.66000	0.0000	0.0	0.0	0.10177	0.0	37.252 *
2.3459	24.93927	9.94400	0.0000	0.0	0.0	0.11169	0.0	37.252 *
2.8150	25.31273	10.22800	0.0000	0.0	0.0	0.12247	0.0	37.252 *
3.2842	25.68618	10.51200	0.0000	0.0	0.0	0.13418	0.0	37.252 *
3.7534	26.05964	10.79600	0.0000	0.0	0.0	0.14693	0.0	37.252 *
4.2226	26.43309	11.08000	0.0000	0.0	0.0	0.16080	0.0	37.252 *
4.6917	26.80655	11.36400	0.0000	0.0	0.0	0.17590	0.0	37.252 *
5.1609	27.18000	11.64800	0.0000	0.0	0.0	0.19235	0.0	37.252 *
B4 Line 10	27.18000	11.64800	0.0000	0.0	0.0	0.19235	0.0	37.252 *
0.36061	27.39833	11.36100	0.0000	0.0	0.0	0.19113	0.0	307.26 *
0.72122	27.61667	11.07400	0.0000	0.0	0.0	0.18970	0.0	307.26 *
1.0818	27.83500	10.78700	0.0000	0.0	0.0	0.18810	0.0	307.26 *
1.4424	28.05333	10.50000	0.0000	0.0	0.0	0.18650	0.0	307.26 *
B5 Line 11	28.05333	10.50000	0.0000	0.0	0.0	0.18650	0.0	307.26 *
0.48359	28.22792	11.07908	0.0000	0.0	0.0	0.20631	0.0	36.625 *
0.97918	28.62085	11.37115	0.0000					



A-SQUARED STUDIO

1_8StCuthber_LongTermScheme

Proj. No.	Sheet No.	Rev.
Drg. Ref.		
Made by	Date	Checked
	08-Nov-2017	

Type/No.	Coordinates	Displacements	Angle of Line to x Axis
Name	Dist. x y z	x y z Horizontal displacement Horizontal displacement	
B6	Line 12	5.8751 32.55008 14.29192 0.00000 1.4265 1.0727 0.95757 1.7848 0.0099266 36.625 *	
B6	Line 12	6.3647 32.94300 14.58400 0.00000 1.5732 1.1831 1.1155 1.9684 0.010948 36.625 *	
B6	Line 12	0.35614 32.73033 14.86967 0.00000 1.5737 1.1834 1.1240 0.0095398 -1.9690 126.67 *	
B6	Line 12	0.71227 32.51767 15.15533 0.00000 1.5742 1.1838 1.1316 0.0095429 -1.9697 126.67 *	
B6	Line 12	1.0684 32.29536 15.44100 0.00000 1.5747 1.1842 1.1385 0.0095450 -1.9703 126.67 *	
B7	Line 13	0.36690 32.60133 15.65733 0.00000 1.6847 1.2669 1.2746 2.1077 0.029909 36.131 *	
B7	Line 13	0.73379 32.89767 15.87367 0.00000 1.7946 1.3496 1.4244 2.2452 0.031861 36.131 *	
B7	Line 13	1.1007 33.19400 16.09000 0.00000 1.9046 1.4323 1.5880 2.3828 0.033813 36.131 *	
B8	Line 14	2.4123 31.74668 18.01841 0.00000 1.9048 1.4324 1.6390 690.00E+6 -2.3830 126.93 *	
B8	Line 14	0.48246 32.90414 16.47568 0.00000 1.9046 1.4323 1.5977 690.02E+6 -2.3831 126.93 *	
B8	Line 14	0.96493 32.61427 16.86136 0.00000 1.9047 1.4323 1.6051 690.04E+6 -2.3831 126.93 *	
B8	Line 14	1.4474 32.32441 17.24705 0.00000 1.9047 1.4324 1.6103 690.05E+6 -2.3832 126.93 *	
B8	Line 14	1.9299 32.03455 17.63273 0.00000 1.9048 1.4324 1.6130 690.07E+6 -2.3833 126.93 *	
B8	Line 14	2.4123 31.74668 18.01841 0.00000 1.9048 1.4324 1.6134 690.08E+6 -2.3833 126.93 *	
B8	Line 14	2.8948 31.45482 18.40409 0.00000 1.9048 1.4325 1.6113 690.10E+6 -2.3834 126.93 *	
B8	Line 14	3.3772 31.16495 18.78977 0.00000 1.9049 1.4325 1.6067 690.11E+6 -2.3834 126.93 *	
B8	Line 14	3.8597 30.87509 19.17545 0.00000 1.9049 1.4325 1.5999 690.13E+6 -2.3835 126.93 *	
B8	Line 14	4.3422 30.58523 19.56114 0.00000 1.9050 1.4326 1.5907 690.14E+6 -2.3835 126.93 *	
B8	Line 14	4.8246 30.29536 19.94682 0.00000 1.9050 1.4326 1.5793 690.15E+6 -2.3836 126.93 *	
B8	Line 14	5.3071 30.00550 20.33250 0.00000 1.9051 1.4326 1.5659 690.17E+6 -2.3836 126.93 *	
B8	Line 14	5.7896 29.71564 20.71818 0.00000 1.9051 1.4327 1.5505 690.19E+6 -2.3837 126.93 *	
B8	Line 14	6.2720 29.42577 21.10386 0.00000 1.9051 1.4327 1.5334 690.20E+6 -2.3837 126.93 *	
B8	Line 14	6.7545 29.1359 21.48955 0.00000 1.9052 1.4327 1.5147 690.22E+6 -2.3838 126.93 *	
B8	Line 14	7.2370 28.84605 21.87523 0.00000 1.9052 1.4328 1.4946 690.23E+6 -2.3838 126.93 *	
B8	Line 14	7.7194 28.55618 22.26091 0.00000 1.9053 1.4328 1.4733 690.25E+6 -2.3839 126.93 *	
B8	Line 14	8.2019 28.26632 22.64659 0.00000 1.8953 1.3181 1.4865 -0.085044 -2.3070 126.93 *	
B8	Line 14	8.6843 27.97645 23.03227 0.00000 1.8779 1.1954 1.4925 -0.17264 -2.2193 126.93 *	
B8	Line 14	9.1668 27.68658 23.41795 0.00000 1.8532 1.0714 1.4897 -0.25691 -2.1351 126.93 *	
B8	Line 14	9.6493 27.39673 23.80364 0.00000 1.8211 0.9483 1.4700 -0.34025 -2.0509 126.93 *	
B8	Line 14	10.132 27.10686 24.18932 0.00000 1.7825 0.82775 1.4577 -0.42424 -1.9223 126.93 *	
B8	Line 14	10.614 26.81700 24.57500 0.00000 1.7369 0.71168 1.4289 -0.47459 -1.8160 126.93 *	
B9	Line 15	0.43274 26.47567 24.96074 0.00000 1.6123 0.5947 1.2583 -1.6986 0.44327 217.93 *	
B9	Line 15	0.86548 26.95133 24.04300 0.00000 1.9050 1.4326 1.67081 -1.0402 -1.0581 217.93 *	
B9	Line 15	1.2982 25.79300 23.77700 0.00000 1.3623 0.6415 0.96674 -1.4680 0.33140 217.93 *	
B9	Line 15	1.7310 25.45167 23.51100 0.00000 1.2368 0.60699 0.84532 -1.3487 0.28148 217.93 *	
B9	Line 15	2.1637 25.11033 23.24500 0.00000 1.1132 0.56522 0.73924 -1.2255 0.23845 217.93 *	
B9	Line 15	2.5964 24.76900 22.97900 0.00000 0.99359 0.51369 0.64746 -1.0995 0.20365 217.93 *	
B9	Line 15	3.0292 24.42767 22.71300 0.00000 0.87426 0.47446 0.56224 0.9705 0.17007 306.76 *	
B9	Line 15	3.4620 24.08633 22.44700 0.00000 0.75728 0.43425 0.62224 0.13267 1.2149 306.76 *	
B9	Line 15	3.8948 23.74500 22.18100 0.00000 0.64085 0.39404 0.68666 0.10429 1.2656 306.76 *	
B9	Line 15	4.3276 23.40367 21.91500 0.00000 0.52487 0.35383 0.75037 0.074338 1.3121 306.76 *	
B9	Line 15	4.7604 23.06233 21.64900 0.00000 0.40940 0.31362 0.81667 -1.3104 0.099997 217.88 *	
B9	Line 15	5.1932 22.72100 21.38300 0.00000 0.29433 0.27341 0.88302 -0.64242 0.042059 217.88 *	
B9	Line 15	5.6260 22.37967 21.11700 0.00000 0.17926 0.23320 0.94937 -0.47307 0.030361 217.88 *	
B9	Line 15	6.0588 22.03833 20.85100 0.00000 0.06429 0.19300 1.01582 -0.30252 -0.97848 0.069375 217.88 *	
B9	Line 15	6.4916 21.69700 20.58500 0.00000 0.04918 0.15279 1.08215 -0.13092 0.055543 217.88 *	
B9	Line 15	6.9244 21.35567 20.31900 0.00000 0.03411 0.11258 1.14846 -0.04442 0.042059 217.88 *	
B9	Line 15	7.3572 21.01433 20.05300 0.00000 0.01904 0.07237 1.21477 -0.047307 0.030361 217.88 *	
B9	Line 15	7.7900 20.67300 19.78700 0.00000 0.00397 0.03216 1.28108 0.020846 0.49581 307.87 *	
B9	Line 15	8.2228 20.33167 19.52100 0.00000 0.00000 0.00000 1.34735 0.010696 0.51344 307.87 *	
B9	Line 15	8.6556 19.99033 19.25500 0.00000 0.00000 0.00000 1.41368 0.007178 0.53178 217.50 *	
B9	Line 15	9.0884 19.64900 18.98900 0.00000 0.00000 0.00000 1.48001 0.004709 0.55011 217.50 *	
B9	Line 15	9.5212 19.30767 18.72300 0.00000 0.00000 0.00000 1.54634 0.002739 0.56842 217.50 *	
B9	Line 15	9.9540 18.96633 18.45700 0.00000 0.00000 0.00000 1.61267 0.001290 0.58673 217.50 *	
B9	Line 15	10.3868 18.62500 18.19100 0.00000 0.00000 0.00000 1.67900 0.000301 0.60504 217.50 *	
B9	Line 15	10.8196 18.28367 17.92500 0.00000 0.00000 0.00000 1.74533 0.000000 0.62335 217.50 *	
B9	Line 15	11.2524 17.94233 17.65900 0.00000 0.00000 0.00000 1.81166 0.000000 0.64166 217.50 *	
B9	Line 15	11.6852 17.60100 17.39300 0.00000 0.00000 0.00000 1.87799 0.000000 0.66000 217.50 *	
B9	Line 15	12.1180 17.25967 17.12700 0.00000 0.00000 0.00000 1.94432 0.000000 0.67833 217.50 *	
B9	Line 15	12.5508 16.91833 16.86100 0.00000 0.00000 0.00000 2.01065 0.000000 0.69666 217.50 *	
B9	Line 15	12.9836 16.57700 16.59500 0.00000 0.00000 0.00000 2.07698 0.000000 0.71500 217.50 *	
B9	Line 15	13.4164 16.23567 16.32900 0.00000 0.00000 0.00000 2.14331 0.000000 0.73333 217.50 *	
B9	Line 15	13.8492 15.89433 16.06300 0.00000 0.00000 0.00000 2.20964 0.000000 0.75166 217.50 *	
B9	Line 15	14.2820 15.55300 15.79700 0.00000 0.00000 0.00000 2.27597 0.000000 0.77000 217.50 *	
B9	Line 15	14.7148 15.21167 15.53100 0.00000 0.00000 0.00000 2.34230 0.000000 0.78833 217.50 *	
B9	Line 15	15.1476 14.87033 15.26500 0.00000 0.00000 0.00000 2.40863 0.000000 0.80666 217.50 *	
B9	Line 15	15.5804 14.52900 15.00000 0.00000 0.00000 0.00000 2.47496 0.000000 0.82500 217.50 *	
B9	Line 15	16.0132 14.18767 14.73400 0.00000 0.00000 0.00000 2.54129 0.000000 0.84333 217.50 *	
B9	Line 15	16.4460 13.84633 14.46800 0.00000 0.00000 0.00000 2.60762 0.000000 0.86166 217.50 *	
B9	Line 15	16.8788 13.50500 14.20200 0.00000 0.00000 0.00000 2.67395 0.000000 0.88000 217.50 *	
B9	Line 15	17.3116 13.16367 13.93600 0.00000 0.00000 0.00000 2.74028 0.000000 0.89833 217.50 *	
B9	Line 15	17.7444 12.82233 13.67000 0.00000 0.00000 0.00000 2.80661 0.000000 0.91666 217.50 *	
B9	Line 15	18.1772 12.48100 13.40400 0.00000 0.00000 0.00000 2.87294 0.000000 0.93500 217.50 *	
B9	Line 15	18.6100 12.13967 13.13800 0.00000 0.00000 0.00000 2.93927 0.000000 0.95333 217.50 *	
B9	Line 15	19.0428 11.79833 12.87200 0.00000 0.00000 0.00000 3.00560 0.000000 0.97166 217.50 *	
B9	Line 15	19.4756 11.45700 12.60600 0.00000 0.00000 0.00000 3.07193 0.000000 0.99000 217.50 *	
B9	Line 15	19.9084 11.11567 12.34000 0.00000 0.00000 0.00000 3.13826 0.000000 1.00833 217.50 *	
B9	Line 15	20.3412 10.77433 12.07400 0.00000 0.00000 0.00000 3.20459 0.000000 1.02666 217.50 *	
B9	Line 15	20.7740 10.43300 11.80800 0.00000 0.00000 0.00000 3.27092 0.000000 1.04500 217.50 *	
B9	Line 15	21.2068 10.09167 11.54200 0.00000 0.00000 0.00000 3.33725 0.000000 1.06333 217.50 *	
B9	Line 15	21.6396 9.75033 11.27600 0.00000 0.00000 0.00000 3.40358 0.000000 1.08166 217.50 *	
B9	Line 15	22.0724 9.40900 11.01000 0.00000 0.00000 0.00000 3.46991 0.000000 1.10000 217.50 *	
B9	Line 15	22.5052 9.06767 10.74400 0.00000 0.00000 0.00000 3.53624 0.000000 1.11833 217.50 *	
B9	Line 15	22.9380 8.72633 10.47800 0.00000 0.00000 0.00000 3.60257 0.000000 1.13666 217.50 *	
B9	Line 15	23.3708 8.38500 10.21200 0.00000 0.00000 0.00000 3.66890 0.000000 1.15500 217.50 *	
B9	Line 15	23.8036 8.04367 9.94600 0.00000 0.00000 0.00000 3.73523 0.000000 1.17333 217.50 *	
B9	Line 15	24.2364 7.70233 9.68000 0.00000 0.00000 0.00000 3.80156 0.000000 1.19166 217.50 *	
B9	Line 15	24.6692 7.36100 9.41400 0.00000 0.00000 0.00000 3.86789 0.000000 1.21000 217.50 *	
B9	Line 15	25.1020 7.01967 9.14800 0.00000 0.00000 0.00000 3.93422 0.000000 1.22833 217.50 *	
B9	Line 15	25.5348 6.67833 8.88200 0.00000 0.00000 0.00000 4.00055 0.000000 1.24666 217.50 *	
B9	Line 15	25.9676 6.33700 8.61600 0.00000 0.00000 0.00000 4.06688 0.000000 1.26500 217.50 *	
B9	Line 15	26.4004 5.99567 8.35000 0.00000 0.00000 0.00000 4.13321 0.000000 1.28333 217.50 *	
B9	Line 15	26.8332 5.65433 8.08400 0.00000 0.00000 0.00000 4.19954 0.000000 1.30166 217.50 *	
B9	Line 15	27.2660 5.31300 7.81800 0.00000 0.00000 0.00000 4.26587 0.000000 1.32000 217.50 *	
B9	Line 15	27.6988 4.97167 7.55200 0.00000 0.00000 0.00000 4.33220 0.000000 1.33833 217.50 *	
B9	Line 15	28.1316 4.63033 7.28600 0.00000 0.00000 0.00000 4.39853 0.000000 1.35666 217.50 *	
B9	Line 15	28.5644 4.28900 7.02000 0.00000 0.00000 0.00000 4.46486 0.000000 1.37500 217.50 *	
B9	Line 15	29.0000 3.94767 6.75400 0.00000 0.00000 0.00000 4.53119 0.000000 1.39333 217.50 *	
B9	Line 15	29.4328 3.60633 6.48800 0.00000 0.00000 0.00000 4.59752 0.000000 1.41166 217.50 *	
B9	Line 15	29.8656 3.26500 6.22200 0.00000 0.00000 0.00000 4.66385 0.000000 1.43000 217.50 *	
B9	Line 15	30.2984 2.92367 5.95600 0.00000 0.00000 0.00000 4.73018 0.000000 1.44833 217.50 *	
B9	Line 15	30.7312 2.58233 5.69000 0.00000 0.00000 0.00000 4.79651 0.000000 1.46666 217.50 *	
B9	Line 15	31.1640 2.24100 5.42400 0.00000 0.00000 0.00000 4.86284 0.000000 1.48500 217.50 *	
B9	Line 15	31.5968 1.89967 5.15800 0.00000 0.00000 0.00000 4.92917 0.000000 1.50333 217.50 *	
B9	Line 15	32.0296 1.55833 4.89200 0.00000 0.00000 0.00000 4.99550 0.000000 1.52166 217.50 *	
B9	Line 15	32.4624 1.21700 4.62600 0.00000 0.00000 0.00000 5.06183 0.000000 1.54000 217.50 *	
B9	Line 15	32.8952 0.87567 4.36000 0.00000 0.00000 0.00000 5.12816 0.000000 1.55833 217.50 *	
B9	Line 15	33.3280 0.53433 4.09400 0.00000 0.00000 0.00000 5.19449 0.000000 1.57666 217.50 *	
B9	Line 15	33.7608 0.19300 3.82800 0.00000 0.00000 0.00000 5.26082 0.000000 1.59500 217.50 *	
B9	Line 15	34.1936 0.00000 3.56200 0.00000 0.00000 0.00000 5.32715 0.000000 1.61333 217.50 *	
B9	Line 15	34.6264 0.00000 3.29600 0.00000 0.00000 0.00000 5.39348 0.000000 1.63166 217.50 *	
B9	Line 15	35.0592 0.00000 3.03000 0.00000 0.00000 0.00000 5.45981 0.000000 1.65000 217.50 *	
B9	Line 15	35.4920 0.00000 2.76400 0.00000 0.00000 0.00000 5.52614 0.000000 1.66833 217.50 *	
B9	Line 15	35.9248 0.00000 2.49800 0.00000 0.00000 0.00000 5.59247 0.000000 1.68666 217.50 *	
B9	Line 15	36.3576 0.00000 2.23200 0.00000 0.00000 0.00000 5.65880 0.000000 1.70500 217.50 *	



Job No.	Sheet No.	Rev.
Drg. Ref.		
Made by	Date	Checked
	08-Nov-2017	

along the Line		perpendicular to Line	
[m]	[mm]	[m]	[mm]
0.0	39.77100	22.18900	0.00000
0.49935	39.37894	21.87975	0.00000
0.99870	38.98787	21.57050	0.00000
1.4980	38.59481	21.26125	0.00000
1.9974	38.20275	20.95200	0.00000
2.4967	37.81069	20.64275	0.00000
2.9961	37.41862	20.33350	0.00000
3.4954	37.02656	20.02425	0.00000
3.9948	36.63450	19.71500	0.00000
4.4941	36.24244	19.40575	0.00000
4.9935	35.85038	19.09650	0.00000
5.4928	35.45831	18.78725	0.00000
5.9922	35.06625	18.47800	0.00000
6.4915	34.67419	18.16875	0.00000
6.9909	34.28213	17.85950	0.00000
7.4902	33.89006	17.55025	0.00000
7.9896	33.49800	17.24100	0.00000

d - Displacements include imported displacements.

Structure: A | Sub-structure: A6

Dist.	Coordinates			Displacements	
	x	y	z	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]
0.0	33.49800	17.24100	0.00000	2.1847	1.6430
0.48914	33.39638	17.62608	0.00000	2.1819	1.6408
0.97828	32.89477	18.01115	0.00000	2.1790	1.6386
1.4674	32.59315	18.39623	0.00000	2.1761	1.6365
1.9566	32.29154	18.78131	0.00000	2.1732	1.6343
2.4457	31.98992	19.16638	0.00000	2.1703	1.6321
2.9348	31.68831	19.55146	0.00000	2.1674	1.6299
3.4240	31.38669	19.93654	0.00000	2.1645	1.6278
3.9131	31.08508	20.32162	0.00000	2.1616	1.6256
4.4022	30.78346	20.70669	0.00000	2.1588	1.6235
4.8914	30.48185	21.09177	0.00000	2.1559	1.6213
5.3805	30.18023	21.47685	0.00000	2.1530	1.6191
5.8697	29.87862	21.86192	0.00000	2.1502	1.6170
6.3588	29.57700	22.24700	0.00000	2.1473	1.6148

d - Displacements include imported displacements.

Structure: B | Sub-structure: B1

Dist.	Coordinates			Displacements	
	x	y	z	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]
0.0	20.51600	5.45800	0.00000	0.0	0.0
0.48720	20.90600	5.75000	0.00000	0.0	0.0
0.97440	21.29600	6.04200	0.00000	0.0	0.0
1.4616	21.68600	6.33400	0.00000	0.0	0.0
1.9488	22.07600	6.62600	0.00000	0.0	0.0
2.4360	22.46600	6.91800	0.00000	0.0	0.0
2.9232	22.85600	7.21000	0.00000	0.0	0.0
3.4104	23.24600	7.50200	0.00000	0.0	0.0
3.8976	23.63600	7.79400	0.00000	0.0	0.0

d - Displacements include imported displacements.

Structure: B | Sub-structure: B2

Dist.	Coordinates			Displacements	
	x	y	z	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]
0.0	23.63600	7.79400	0.00000	0.0	0.0
0.46125	23.35400	8.15900	0.00000	0.0	0.0
0.92249	23.07200	8.52400	0.00000	0.0	0.0

d - Displacements include imported displacements.

Structure: B | Sub-structure: B3

Dist.	Coordinates			Displacements	
	x	y	z	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]
0.0	23.07200	8.52400	0.00000	0.0	0.0
0.46917	23.44545	8.80800	0.00000	0.0	0.0
0.93835	23.81891	9.09200	0.00000	0.0	0.0
1.4075	24.19236	9.37600	0.00000	0.0	0.0
1.8767	24.56582	9.66000	0.00000	0.0	0.0
2.3459	24.93927	9.94400	0.00000	0.0	0.0
2.8150	25.31273	10.22800	0.00000	0.0	0.0
3.2842	25.68618	10.51200	0.00000	0.0	0.0
3.7534	26.05964	10.79600	0.00000	0.0	0.0
4.2226	26.43309	11.08000	0.00000	0.0	0.0
4.6917	26.80655	11.36400	0.00000	0.0	0.0
5.1609	27.18000	11.64800	0.00000	0.0	0.0

d - Displacements include imported displacements.

Structure: B | Sub-structure: B4

Dist.	Coordinates			Displacements	
	x	y	z	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]
0.0	27.18000	11.64800	0.00000	0.0	0.0
0.36061	27.39833	11.36100	0.00000	0.0	0.0
0.72122	27.61667	11.07400	0.00000	0.0	0.0
1.0818	27.83500	10.78700	0.00000	0.0	0.0

d - Displacements include imported displacements.

Structure: B | Sub-structure: B5

Dist.	Coordinates			Displacements	
	x	y	z	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]
0.0	27.83500	10.78700	0.00000	0.0	0.0
0.48959	28.22792	11.07908	0.00000	0.0	0.0
0.97918	28.62085	11.37115	0.00000	0.0	0.0
1.4688	29.01377	11.66323	0.00000	0.10586	0.079609
1.9584	29.40669	11.95531	0.00000	0.25259	0.18995
2.4479	29.79962	12.24738	0.00000	0.39933	0.30030
2.9375	30.19254	12.53946	0.00000	0.54606	0.41064
3.4271	30.58546	12.83154	0.00000	0.69279	0.52099
3.9167	30.97838	13.12362	0.00000	0.83952	0.63133
4.4063	31.37131	13.41569	0.00000	0.98626	0.74168

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Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
4.8959	31.76423	13.70777	0.00000	1.1330	0.85202	0.0095366
5.3855	32.15715	13.99985	0.00000	1.2797	0.96237	1.6012
5.8751	32.55008	14.29192	0.00000	1.4265	1.0727	1.7848
6.3647	32.94300	14.58400	0.00000	1.5732	1.1831	1.9684

d - Displacements include imported displacements.

Structure: B | Sub-structure: B6

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
0.0	32.94300	14.58400	0.00000	1.5732	1.1831	1.9684
0.35614	32.73033	14.86967	0.00000	1.5737	1.1834	1.9690
0.71227	32.51767	15.15533	0.00000	1.5742	1.1838	1.9697
1.0684	32.30500	15.44100	0.00000	1.5747	1.1842	1.9703

d - Displacements include imported displacements.

Structure: B | Sub-structure: B7

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
0.0	32.30500	15.44100	0.00000	1.5747	1.1842	1.9701
0.36690	32.60133	15.65733	0.00000	1.6847	1.2669	2.1077
0.73379	32.89767	15.87367	0.00000	1.7946	1.3496	2.2452
1.1007	33.19400	16.09000	0.00000	1.9046	1.4323	2.3828

d - Displacements include imported displacements.

Structure: B | Sub-structure: B8

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
0.0	33.19400	16.09000	0.00000	1.9046	1.4323	2.3830
0.48246	32.90414	16.47568	0.00000	1.9046	1.4323	2.3831
0.96493	32.61427	16.86136	0.00000	1.9047	1.4323	2.3831
1.4474	32.32441	17.24705	0.00000	1.9047	1.4324	2.3832
1.9299	32.03455	17.63273	0.00000	1.9048	1.4324	2.3833
2.4123	31.74468	18.01841	0.00000	1.9048	1.4324	2.3833
2.8948	31.45482	18.40409	0.00000	1.9048	1.4325	2.3834
3.3772	31.16495	18.78977	0.00000	1.9049	1.4325	2.3834
3.8597	30.87509	19.17545	0.00000	1.9049	1.4325	2.3835
4.3422	30.58523	19.56113	0.00000	1.9050	1.4326	2.3835
4.8246	30.29536	19.94682	0.00000	1.9050	1.4326	2.3836
5.3071	30.00550	20.33250	0.00000	1.9051	1.4326	2.3836
5.7896	29.71564	20.71818	0.00000	1.9051	1.4327	2.3837
6.2720	29.42577	21.10386	0.00000	1.9051	1.4327	2.3837
6.7545	29.13591	21.48955	0.00000	1.9052	1.4327	2.3838
7.2370	28.84605	21.87523	0.00000	1.9052	1.4328	2.3838
7.7194	28.55618	22.26091	0.00000	1.9053	1.4328	2.3839
8.2019	28.26632	22.64659	0.00000	1.8953	1.3181	-0.085044
8.6843	27.97645	23.03227	0.00000	1.8779	1.1954	-0.17264
9.1668	27.68659	23.41795	0.00000	1.8532	1.0714	-0.25691
9.6493	27.39673	23.80364	0.00000	1.8214	0.94823	-0.33625
10.132	27.10686	24.18932	0.00000	1.7825	0.82775	-0.40924
10.614	26.81700	24.57500	0.00000	1.7369	0.71168	-0.47459

d - Displacements include imported displacements.

Structure: B | Sub-structure: B9

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
0.0	26.81700	24.57500	0.00000	1.7369	0.71168	1.8075
0.43274	26.47859	24.30989	0.00000	1.6123	0.69477	-1.6986
0.86548	26.13433	24.04300	0.00000	1.4874	0.67081	-1.5856
1.2982	25.79300	23.77700	0.00000	1.3623	0.64145	-1.4688
1.7310	25.45167	23.51100	0.00000	1.2368	0.60699	-1.3487
2.1637	25.11033	23.24500	0.00000	1.1132	0.56522	-1.2255
2.5964	24.76900	22.97900	0.00000	0.99359	0.51369	-1.0995

d - Displacements include imported displacements.

Structure: B | Sub-structure: B10

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
0.0	24.76900	22.97900	0.00000	0.99359	0.51369	0.18305
0.43530	25.02950	22.63025	0.00000	1.0251	0.56721	0.15905
0.87060	25.29000	22.28150	0.00000	1.0528	0.62078	0.13267
1.3059	25.55050	21.93275	0.00000	1.0763	0.67380	0.10429
1.7412	25.81100	21.58400	0.00000	1.0957	0.72563	0.074338

d - Displacements include imported displacements.

Structure: B | Sub-structure: B11

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
0.0	25.81100	21.58400	0.00000	1.0957	0.72563	-1.3104
0.47915	25.43280	21.28980	0.00000	0.95543	0.63660	-1.1450
0.95831	25.05460	20.99560	0.00000	0.81492	0.54603	-0.97848
1.4375	24.67640	20.70140	0.00000	0.67417	0.45406	-0.81092
1.9166	24.29820	20.40720	0.00000	0.53320	0.36085	-0.64242
2.3958	23.92000	20.11300	0.00000	0.39204	0.26650	-0.47307

d - Displacements include imported displacements.

Structure: B | Sub-structure: B12

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
0.0	23.92000	20.11300	0.00000	0.39204	0.26650	0.030327
0.47317	24.21050	19.73950	0.00000	0.40417	0.28795	0.020846
0.94635	24.50100	19.36600	0.00000	0.41185	0.30678	0.010696

d - Displacements include imported displacements.

Structure: B | Sub-structure: B13



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Structure: B | Sub-structure: B14

Dist.	Coordinates			Displacements			
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line	
[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]	
0.0	24.50100	19.36500	0.00000	0.41195	0.30678	-0.51349	0.0073141 d
0.45943	24.13650	19.08633	0.00000	0.27435	0.20450	-0.34215	0.0047608 d
0.91886	23.77200	18.80667	0.00000	0.13683	0.10206	-0.17068	0.0023221 d
1.3783	23.40750	18.52700	0.00000	0.0	0.0	0.0	0.0 d
1.8377	23.04300	18.24733	0.00000	0.0	0.0	0.0	0.0 d
2.2971	22.67850	17.96767	0.00000	0.0	0.0	0.0	0.0 d
2.7566	22.31400	17.68800	0.00000	0.0	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: B | Sub-structure: B15

Dist.	Coordinates			Displacements			
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line	
[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]	
0.0	22.31400	17.68800	0.00000	0.0	0.0	0.0	0.0 d
0.44350	22.04420	18.04000	0.00000	0.0	0.0	0.0	0.0 d
0.88701	21.77440	18.39200	0.00000	0.0	0.0	0.0	0.0 d
1.3305	21.50460	18.74400	0.00000	0.0	0.0	0.0	0.0 d
1.7740	21.23480	19.09600	0.00000	0.0	0.0	0.0	0.0 d
2.2175	20.96500	19.44800	0.00000	0.0	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: B | Sub-structure: B16

Dist.	Coordinates			Displacements			
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line	
[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]	
0.0	20.96500	19.44800	0.00000	0.0	0.0	0.0	0.0 d
0.49138	20.57211	19.15289	0.00000	0.0	0.0	0.0	0.0 d
0.98276	20.17922	18.85778	0.00000	0.0	0.0	0.0	0.0 d
1.4741	19.78633	18.56267	0.00000	0.0	0.0	0.0	0.0 d
1.9655	19.39344	18.26756	0.00000	0.0	0.0	0.0	0.0 d
2.4569	19.00056	17.97244	0.00000	0.0	0.0	0.0	0.0 d
2.9483	18.60767	17.67733	0.00000	0.0	0.0	0.0	0.0 d
3.4396	18.21478	17.38222	0.00000	0.0	0.0	0.0	0.0 d
3.9310	17.82189	17.08711	0.00000	0.0	0.0	0.0	0.0 d
4.4224	17.42900	16.79200	0.00000	0.0	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: B | Sub-structure: B17

Dist.	Coordinates			Displacements			
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line	
[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]	
0.0	17.42900	16.79200	0.00000	0.0	0.0	0.0	0.0 d
0.49346	17.71689	16.39122	0.00000	0.0	0.0	0.0	0.0 d
0.98692	18.00478	15.99044	0.00000	0.0	0.0	0.0	0.0 d
1.4804	18.29267	15.58967	0.00000	0.0	0.0	0.0	0.0 d
1.9738	18.58056	15.18889	0.00000	0.0	0.0	0.0	0.0 d
2.4673	18.86844	14.78811	0.00000	0.0	0.0	0.0	0.0 d
2.9608	19.15633	14.38733	0.00000	0.0	0.0	0.0	0.0 d
3.4542	19.44422	13.98656	0.00000	0.0	0.0	0.0	0.0 d
3.9477	19.73211	13.58578	0.00000	0.0	0.0	0.0	0.0 d
4.4411	20.02000	13.18500	0.00000	0.0	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: B | Sub-structure: B18

Dist.	Coordinates			Displacements			
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line	
[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]	
0.0	20.02000	13.18500	0.00000	0.0	0.0	0.0	0.0 d
0.48838	19.64200	12.87575	0.00000	0.0	0.0	0.0	0.0 d
0.97677	19.26400	12.56650	0.00000	0.0	0.0	0.0	0.0 d
1.4652	18.88600	12.25725	0.00000	0.0	0.0	0.0	0.0 d
1.9535	18.50800	11.94800	0.00000	0.0	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: B | Sub-structure: B19

Dist.	Coordinates			Displacements			
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line	
[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]	
0.0	18.50800	11.94800	0.00000	0.0	0.0	0.0	0.0 d
0.43983	18.77567	11.59900	0.00000	0.0	0.0	0.0	0.0 d
0.87965	19.04333	11.25000	0.00000	0.0	0.0	0.0	0.0 d
1.3195	19.31100	10.90100	0.00000	0.0	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: B | Sub-structure: B20

Dist.	Coordinates			Displacements			
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line	
[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]	
0.0	19.31100	10.90100	0.00000	0.0	0.0	0.0	0.0 d
0.47300	18.93320	10.61640	0.00000	0.0	0.0	0.0	0.0 d
0.94600	18.55540	10.33180	0.00000	0.0	0.0	0.0	0.0 d
1.4190	18.17760	10.04720	0.00000	0.0	0.0	0.0	0.0 d
1.8920	17.79980	9.76260	0.00000	0.0	0.0	0.0	0.0 d
2.3650	17.42200	9.47800	0.00000	0.0	0.0	0.0	0.0 d

d - Displacements include imported displacements.

Structure: B | Sub-structure: B20

Dist.	Coordinates			Displacements			
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line	
[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]	
0.0	17.42200	9.47800	0.00000	0.0	0.0	0.0	0.0 d
0.46116	17.70327	9.11255	0.00000	0.0	0.0	0.0	0.0 d
0.92233	17.98455	8.74709	0.00000	0.0	0.0	0.0	0.0 d
1.3835	18.26582	8.38164	0.00000	0.0	0.0	0.0	0.0 d
1.8447	18.54709	8.01618	0.00000	0.0	0.0	0.0	0.0 d
2.3058	18.82836	7.65073	0.00000	0.0	0.0	0.0	0.0 d
2.7670	19.10964	7.28527	0.00000	0.0	0.0	0.0	0.0 d



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Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
3.2281	19.39091	6.91982	0.00000	0.0	0.0	0.0
3.6893	19.67218	6.55436	0.00000	0.0	0.0	0.0
4.1505	19.95345	6.18891	0.00000	0.0	0.0	0.0
4.6116	20.23473	5.82345	0.00000	0.0	0.0	0.0
5.0728	20.51600	5.45800	0.00000	0.0	0.0	0.0

d - Displacements include imported displacements.

Structure: C | Sub-structure: C1

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
0.0	36.28600	29.95000	0.00000	4.8497	-6.4489	-8.0679
0.45629	36.00578	30.31011	0.00000	4.6409	-6.1713	-7.7205
0.91259	35.72556	30.67022	0.00000	4.4371	-5.9003	-7.3815
1.3689	35.44533	31.03033	0.00000	4.2381	-5.6356	-7.0504
1.8252	35.16511	31.39044	0.00000	4.0436	-5.3770	-6.7269
2.2815	34.88489	31.75056	0.00000	3.8535	-5.1242	-6.4106
2.7378	34.60467	32.11067	0.00000	3.6674	-4.8768	-6.1011
3.1941	34.32444	32.47078	0.00000	3.4853	-4.6345	-5.7980
3.6504	34.04422	32.83089	0.00000	3.3067	-4.3971	-5.5010
4.1066	33.76400	33.19100	0.00000	3.1316	-4.1643	-5.2097

d - Displacements include imported displacements.

Structure: C | Sub-structure: C2

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
0.0	33.76400	33.32200	0.00000	3.1316	-4.1643	-5.2097
0.48792	33.36471	32.91057	0.00000	3.1256	-4.1563	-5.1976
0.97585	32.96543	32.63014	0.00000	3.1196	-4.1482	-5.1876
1.4638	32.56614	32.34971	0.00000	3.1126	-3.8578	-4.9459
1.9517	32.16686	32.06929	0.00000	3.0900	-3.4752	-4.6199
2.4396	31.76757	31.78886	0.00000	3.0498	-3.0957	-4.2862
2.9275	31.36829	31.50843	0.00000	2.9927	-2.7292	-3.9529
3.4155	30.96900	31.22800	0.00000	2.9264	-2.3761	-3.6263

d - Displacements include imported displacements.

Structure: C | Sub-structure: C3

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
0.0	30.96900	31.22800	0.00000	2.9264	-2.3761	-3.6264
0.48944	30.68767	31.62850	0.00000	2.7669	-2.3460	-3.5101
0.97897	30.40633	32.02900	0.00000	2.6066	-2.3170	-3.3930
1.4683	30.12500	32.42950	0.00000	2.4463	-2.2759	-3.2763
1.9577	29.84367	32.83000	0.00000	2.2857	-2.1244	-3.0522
2.4472	29.56233	33.23050	0.00000	2.1256	-2.0193	-2.8742
2.9366	29.28100	33.63100	0.00000	1.9659	-1.9029	-2.6872

d - Displacements include imported displacements.

Structure: C | Sub-structure: C4

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
0.0	29.28100	33.63100	0.00000	1.9659	-1.9029	-2.7038
0.48464	29.00000	33.92200	0.00000	1.9963	-2.0846	-2.8437
0.96928	30.05580	34.21340	0.00000	2.0182	-2.2646	-3.0254
1.4539	30.44320	34.50460	0.00000	2.0313	-2.4400	-3.2071
1.9386	30.83060	34.79580	0.00000	2.0353	-2.6078	-3.3905
2.4232	31.21800	35.08700	0.00000	2.0333	-2.7038	-3.5730

d - Displacements include imported displacements.

Structure: C | Sub-structure: C5

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
0.0	31.21800	35.08700	0.00000	2.0333	-2.7038	-3.7575
0.42208	31.42400	35.45540	0.00000	1.9746	-2.6257	-3.5281
0.84417	31.63000	35.82380	0.00000	1.9161	-2.5480	-3.2987
1.2663	31.83600	36.19220	0.00000	1.8579	-2.4705	-3.0700
1.6883	32.04200	36.56060	0.00000	1.7998	-2.3933	-2.8413
2.1104	32.24800	36.92900	0.00000	1.7419	-2.3163	-2.6126

d - Displacements include imported displacements.

Structure: C | Sub-structure: C6

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
0.0	32.24800	36.92900	0.00000	1.7419	-2.3163	-2.3863
0.46414	32.62185	37.20408	0.00000	1.7436	-2.3185	-2.3029
0.92829	32.99569	37.47915	0.00000	1.7452	-2.3207	-2.2195
1.3924	33.36954	37.75423	0.00000	1.7468	-2.3229	-2.1361
1.8566	33.74338	38.02931	0.00000	1.7485	-2.3250	-2.0527
2.3207	34.11723	38.30439	0.00000	1.7501	-2.3272	-1.9693
2.7849	34.49108	38.57946	0.00000	1.7518	-2.3294	-1.8859
3.2490	34.86492	38.85454	0.00000	1.7534	-2.3316	-1.8025
3.7131	35.23877	39.12962	0.00000	1.7551	-2.3338	-1.7191
4.1773	35.61262	39.40469	0.00000	1.7567	-2.3360	-1.6357
4.6414	35.98646	39.67977	0.00000	1.7583	-2.3382	-1.5523
5.1056	36.36031	39.95485	0.00000	1.7600	-2.3403	-1.4689
5.5697	36.73415	40.22992	0.00000	1.7616	-2.3425	-1.3855
6.0339	37.10800	40.50500	0.00000	1.7633	-2.3447	-1.3021

d - Displacements include imported displacements.

Structure: C | Sub-structure: C7

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
0.0	37.10800	40.50500	0.00000	1.7633	-2.3447	-2.9336
0.44342	37.37100	40.14800	0.00000	1.9343	-2.5455	-3.1848

d - Displacements include imported displacements.



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		along the		perpendicular	
		Line		to Line	
[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	36.47000	41.32000	0.00000	1.4152	-1.8819
0.47879	36.08257	41.03870	0.00000	1.4125	-1.8783
0.95758	35.69513	40.75739	0.00000	1.4098	-1.8747
1.4364	35.30770	40.47609	0.00000	1.4072	-1.8712
1.9152	34.92026	40.19478	0.00000	1.4045	-1.8676
2.3939	34.53283	39.91348	0.00000	1.4018	-1.8640
2.8727	34.14539	39.63217	0.00000	1.3991	-1.8604
3.3515	33.75796	39.35087	0.00000	1.3964	-1.8569
3.8303	33.37052	39.06957	0.00000	1.3937	-1.8533
4.3091	32.98309	38.78826	0.00000	1.3911	-1.8497
4.7879	32.59565	38.50696	0.00000	1.3884	-1.8462
5.2667	32.20822	38.22565	0.00000	1.3857	-1.8426
5.7455	31.82078	37.94435	0.00000	1.3830	-1.8390
6.2242	31.43335	37.66304	0.00000	1.3803	-1.8355
6.7030	31.04591	37.38174	0.00000	1.3776	-1.8319
7.1818	30.65848	37.10043	0.00000	1.3750	-1.8283
7.6606	30.27104	36.81913	0.00000	1.3723	-1.8248
8.1394	29.88361	36.53783	0.00000	1.3696	-1.8212
8.6182	29.49617	36.25652	0.00000	1.3705	-1.7257
9.0970	29.10874	35.97522	0.00000	1.3643	-1.6228
9.5758	28.72130	35.69391	0.00000	1.3511	-1.5142
10.055	28.33387	35.41261	0.00000	1.3310	-1.4013
10.533	27.94643	35.13130	0.00000	1.3043	-1.2857
11.012	27.55900	34.85000	0.00000	1.2712	-1.1690
d					

Specific Building Damage Results - Vertical Displacements

Structure: A | Sub-structure: A1

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	
Vertical Offset 1					
0.0	29.57700	22.24700	0.00000	1.8879	d
0.47829	29.95067	22.54556	0.00000	2.1440	d
0.95658	30.32433	22.84411	0.00000	2.4189	d
1.4349	30.69800	23.14267	0.00000	2.7111	d
1.9132	31.07167	23.44122	0.00000	3.0184	d
2.3915	31.44533	23.73978	0.00000	3.3386	d
2.8697	31.81900	24.03833	0.00000	3.6716	d
3.3480	32.19267	24.33689	0.00000	4.0339	d
3.8263	32.56633	24.63544	0.00000	4.4022	d
4.3046	32.94000	24.93400	0.00000	4.7864	d
d					

Structure: A | Sub-structure: A2

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	
Vertical Offset 1					
0.0	32.94000	24.93400	0.00000	4.7864	d
0.41896	33.20150	24.60667	0.00000	4.8810	d
0.83792	33.46300	24.27933	0.00000	4.9730	d
1.2569	33.72450	23.95200	0.00000	5.0611	d
1.6758	33.98600	23.62467	0.00000	5.1444	d
2.0948	34.24750	23.29733	0.00000	5.2219	d
2.5138	34.50900	22.97000	0.00000	5.2926	d
d					

Structure: A | Sub-structure: A3

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	
Vertical Offset 1					
0.0	34.50900	22.97000	0.00000	5.2926	d
0.47280	34.87837	23.26512	0.00000	5.7892	d
0.94559	35.24775	23.56025	0.00000	6.3392	d
1.4184	35.61713	23.85537	0.00000	6.9559	d
1.8912	35.98650	24.15050	0.00000	7.6565	d
2.3640	36.35587	24.44563	0.00000	8.4670	d
2.8368	36.72525	24.74075	0.00000	9.4221	d
3.3096	37.09462	25.03588	0.00000	10.639	d
3.7824	37.46400	25.33100	0.00000	12.282	d
d					

Structure: A | Sub-structure: A4

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	
Vertical Offset 1					
0.0	37.46400	25.33100	0.00000	12.282	d
0.48725	37.75238	24.93825	0.00000	12.779	d
0.97450	38.04075	24.54550	0.00000	13.100	d
1.4618	38.32912	24.15275	0.00000	13.279	d
1.9490	38.61750	23.76000	0.00000	13.352	d
2.4363	38.90588	23.36725	0.00000	13.329	d
2.9235	39.19425	22.97450	0.00000	13.201	d
3.4108	39.48262	22.58175	0.00000	12.930	d
3.8980	39.77100	22.18900	0.00000	12.493	d
d					

Structure: A | Sub-structure: A5

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	
Vertical Offset 1					
0.0	39.77100	22.18900	0.00000	12.493	d
0.49935	39.37894	21.87975	0.00000	10.767	d
0.99870	38.98687	21.57050	0.00000	9.4922	d
1.4980	38.59481	21.26125	0.00000	8.4706	d
1.9974	38.20275	20.95200	0.00000	7.6128	d
2.4967	37.81069	20.64275	0.00000	6.8735	d
2.9961	37.41862	20.33350	0.00000	6.2253	d
3.4954	37.02656	20.02425	0.00000	5.6496	d
3.9948	36.63450	19.71500	0.00000	5.1310	d
4.4941	36.24244	19.40575	0.00000	4.6555	d
4.9935	35.85038	19.09650	0.00000	4.2086	d
5.4928	35.45831	18.78725	0.00000	3.7889	d
5.9922	35.06625	18.47800	0.00000	3.4046	d
6.4915	34.67419	18.16875	0.00000	3.0409	d
6.9909	34.28213	17.85950	0.00000	2.6990	d
7.4902	33.89006	17.55025	0.00000	2.3801	d
7.9896	33.49800	17.24100	0.00000	2.0854	d
d					

Structure: A | Sub-structure: A6

Dist.	Coordinates			Displacements	
x	y	z	z		



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```
[m] [m] [m] [m] [mm]
Vertical Offset 1
0.0 33.49800 17.24100 0.00000 2.0854 d
0.48914 33.19638 17.62608 0.00000 2.0882 d
0.97828 32.89477 18.01115 0.00000 2.0978 d
1.4674 32.59315 18.39623 0.00000 2.0841 d
1.9566 32.29154 18.78131 0.00000 2.0772 d
2.4457 31.98992 19.16638 0.00000 2.0671 d
2.9348 31.68831 19.55146 0.00000 2.0539 d
3.4240 31.38669 19.93654 0.00000 2.0377 d
3.9131 31.08508 20.32162 0.00000 2.0186 d
4.4022 30.78346 20.70669 0.00000 1.9968 d
4.8914 30.48185 21.09177 0.00000 1.9726 d
5.3805 30.18023 21.47685 0.00000 1.9462 d
5.8697 29.87862 21.86192 0.00000 1.9179 d
6.3588 29.57700 22.24700 0.00000 1.8879 d
d - Displacements include imported displacements.
```

Structure: B | Sub-structure: B1

Dist.	Coordinates			Displacements
[m]	x	y	z	z
[m]	[m]	[m]	[m]	[mm]

```
Vertical Offset 1
0.0 20.51600 5.45800 0.00000 0.027659 d
0.48720 20.90600 5.75000 0.00000 0.031377 d
0.97440 21.29600 6.04200 0.00000 0.035422 d
1.4616 21.68600 6.33400 0.00000 0.039820 d
1.9488 22.07600 6.62600 0.00000 0.044604 d
2.4360 22.46600 6.91800 0.00000 0.049808 d
2.9232 22.85600 7.21000 0.00000 0.055468 d
3.4104 23.24600 7.50200 0.00000 0.061625 d
3.8976 23.63600 7.79400 0.00000 0.068325 d
d - Displacements include imported displacements.
```

Structure: B | Sub-structure: B2

Dist.	Coordinates			Displacements
[m]	x	y	z	z
[m]	[m]	[m]	[m]	[mm]

```
Vertical Offset 1
0.0 23.63600 7.79400 0.00000 0.068325 d
0.46125 23.35400 8.15900 0.00000 0.068904 d
0.92249 23.07200 8.52400 0.00000 0.069379 d
d - Displacements include imported displacements.
```

Structure: B | Sub-structure: B3

Dist.	Coordinates			Displacements
[m]	x	y	z	z
[m]	[m]	[m]	[m]	[mm]

```
Vertical Offset 1
0.0 23.07200 8.52400 0.00000 0.069379 d
0.46917 23.44545 8.80800 0.00000 0.076508 d
0.93835 23.81891 9.09200 0.00000 0.084246 d
1.4075 24.19236 9.37600 0.00000 0.092648 d
1.8767 24.56582 9.66000 0.00000 0.10177 d
2.3459 24.93927 9.94400 0.00000 0.11169 d
2.8150 25.31273 10.22800 0.00000 0.12247 d
3.2842 25.68618 10.51200 0.00000 0.13418 d
3.7534 26.05964 10.79600 0.00000 0.14693 d
4.2226 26.43309 11.08000 0.00000 0.16080 d
4.6917 26.80655 11.36400 0.00000 0.17590 d
5.1609 27.18000 11.64800 0.00000 0.19235 d
d - Displacements include imported displacements.
```

Structure: B | Sub-structure: B4

Dist.	Coordinates			Displacements
[m]	x	y	z	z
[m]	[m]	[m]	[m]	[mm]

```
Vertical Offset 1
0.0 27.18000 11.64800 0.00000 0.19235 d
0.36061 27.39833 11.36100 0.00000 0.19113 d
0.72122 27.61667 11.07400 0.00000 0.18970 d
1.0818 27.83500 10.78700 0.00000 0.18810 d
d - Displacements include imported displacements.
```

Structure: B | Sub-structure: B5

Dist.	Coordinates			Displacements
[m]	x	y	z	z
[m]	[m]	[m]	[m]	[mm]

```
Vertical Offset 1
0.0 27.83500 10.78700 0.00000 0.18810 d
0.48959 28.22792 11.07908 0.00000 0.20631 d
0.97918 28.62085 11.37115 0.00000 0.22623 d
1.4688 29.01377 11.66323 0.00000 0.24766 d
1.9584 29.40669 11.95531 0.00000 0.32421 d
2.4479 29.79962 12.24738 0.00000 0.36961 d
2.9375 30.19254 12.53946 0.00000 0.41694 d
3.4271 30.58546 12.83154 0.00000 0.47071 d
3.9167 30.97838 13.12362 0.00000 0.53493 d
4.4063 31.37131 13.41569 0.00000 0.61304 d
4.8959 31.76423 13.70777 0.00000 0.70799 d
5.3855 32.15715 13.99985 0.00000 0.82219 d
5.8751 32.55008 14.29192 0.00000 0.95757 d
6.3647 32.94300 14.58400 0.00000 1.1155 d
d - Displacements include imported displacements.
```

Structure: B | Sub-structure: B6

Dist.	Coordinates			Displacements
[m]	x	y	z	z
[m]	[m]	[m]	[m]	[mm]

```
Vertical Offset 1
0.0 32.94300 14.58400 0.00000 1.1155 d
0.35614 32.73033 14.86967 0.00000 1.1240 d
0.71227 32.51767 15.15533 0.00000 1.1316 d
1.0684 32.30500 15.44100 0.00000 1.1385 d
d - Displacements include imported displacements.
```

Structure: B | Sub-structure: B7

Dist.	Coordinates			Displacements
[m]	x	y	z	z
[m]	[m]	[m]	[m]	[mm]

```
Vertical Offset 1
0.0 32.30500 15.44100 0.00000 1.1385 d
0.36690 32.60133 15.65733 0.00000 1.2746 d
0.73379 32.89767 15.87367 0.00000 1.4244 d
1.1007 33.19400 16.09000 0.00000 1.5880 d
d - Displacements include imported displacements.
```



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Dist.	Coordinates			Displacements
[m]	x [m]	y [m]	z [m]	z [mm]

Structure: B | Sub-structure: B8

Dist.	Coordinates			Displacements
[m]	x [m]	y [m]	z [m]	z [mm]

Vertical Offset 1

0.0	33.19400	16.09000	0.00000	1.5880 d
0.48246	32.90414	16.47568	0.00000	1.5977 d
0.96493	32.61427	16.86136	0.00000	1.6051 d
1.4474	32.32441	17.24705	0.00000	1.6103 d
1.9299	32.03455	17.63273	0.00000	1.6130 d
2.4123	31.74468	18.01841	0.00000	1.6134 d
2.8948	31.45482	18.40409	0.00000	1.6113 d
3.3772	31.16495	18.78977	0.00000	1.6067 d
3.8597	30.87509	19.17545	0.00000	1.5999 d
4.3422	30.58523	19.56114	0.00000	1.5907 d
4.8246	30.29536	19.94682	0.00000	1.5793 d
5.3071	30.00550	20.33250	0.00000	1.5659 d
5.7896	29.71564	20.71818	0.00000	1.5505 d
6.2720	29.42577	21.10386	0.00000	1.5334 d
6.7545	29.13591	21.48955	0.00000	1.5147 d
7.2370	28.84605	21.87523	0.00000	1.4946 d
7.7194	28.55618	22.26091	0.00000	1.4733 d
8.2019	28.26632	22.64659	0.00000	1.4869 d
8.6843	27.97645	23.03227	0.00000	1.4925 d
9.1668	27.68659	23.41795	0.00000	1.4897 d
9.6493	27.39673	23.80364	0.00000	1.4780 d
10.132	27.10686	24.18932	0.00000	1.4577 d
10.614	26.81700	24.57500	0.00000	1.4289 d

d - Displacements include imported displacements.

Structure: B | Sub-structure: B9

Dist.	Coordinates			Displacements
[m]	x [m]	y [m]	z [m]	z [mm]

Vertical Offset 1

0.0	26.81700	24.57500	0.00000	1.4289 d
0.43274	26.47567	24.30900	0.00000	1.2583 d
0.86548	26.13433	24.04300	0.00000	1.1042 d
1.2982	25.79300	23.77700	0.00000	0.96674 d
1.7310	25.45167	23.51100	0.00000	0.84532 d
2.1637	25.11033	23.24500	0.00000	0.73294 d
2.5964	24.76900	22.97900	0.00000	0.64746 d

d - Displacements include imported displacements.

Structure: B | Sub-structure: B10

Dist.	Coordinates			Displacements
[m]	x [m]	y [m]	z [m]	z [mm]

Vertical Offset 1

0.0	24.76900	22.97900	0.00000	0.64746 d
0.43530	25.02950	22.63025	0.00000	0.65614 d
0.87060	25.29000	22.28150	0.00000	0.66224 d
1.3059	25.55050	21.93275	0.00000	0.66566 d
1.7412	25.81100	21.58400	0.00000	0.66637 d

d - Displacements include imported displacements.

Structure: B | Sub-structure: B11

Dist.	Coordinates			Displacements
[m]	x [m]	y [m]	z [m]	z [mm]

Vertical Offset 1

0.0	25.81100	21.58400	0.00000	0.66637 d
0.47915	25.43280	21.28980	0.00000	0.57680 d
0.95831	25.05460	20.99560	0.00000	0.50252 d
1.4375	24.67640	20.70140	0.00000	0.44085 d
1.9166	24.29820	20.40720	0.00000	0.38862 d
2.3958	23.92000	20.11300	0.00000	0.34215 d

d - Displacements include imported displacements.

Structure: B | Sub-structure: B12

Dist.	Coordinates			Displacements
[m]	x [m]	y [m]	z [m]	z [mm]

Vertical Offset 1

0.0	23.92000	20.11300	0.00000	0.34215 d
0.47317	24.21050	19.73950	0.00000	0.34543 d
0.94635	24.50100	19.36600	0.00000	0.34755 d

d - Displacements include imported displacements.

Structure: B | Sub-structure: B13

Dist.	Coordinates			Displacements
[m]	x [m]	y [m]	z [m]	z [mm]

Vertical Offset 1

0.0	24.50100	19.36600	0.00000	0.34755 d
0.45943	24.13650	19.08633	0.00000	0.30729 d
0.91886	23.77200	18.80667	0.00000	0.26473 d
1.3783	23.40750	18.52700	0.00000	0.22111 d
1.8377	23.04300	18.24733	0.00000	0.19486 d
2.2971	22.67850	17.96767	0.00000	0.17896 d
2.7566	22.31400	17.68800	0.00000	0.16429 d

d - Displacements include imported displacements.

Structure: B | Sub-structure: B14

Dist.	Coordinates			Displacements
[m]	x [m]	y [m]	z [m]	z [mm]

Vertical Offset 1

0.0	22.31400	17.68800	0.00000	0.16429 d
0.44350	22.04420	18.04000	0.00000	0.16083 d
0.88701	21.77440	18.39200	0.00000	0.15720 d
1.3305	21.50460	18.74400	0.00000	0.15342 d
1.7740	21.23480	19.09600	0.00000	0.14952 d
2.2175	20.96500	19.44800	0.00000	0.14551 d

d - Displacements include imported displacements.

Structure: B | Sub-structure: B15

Dist.	Coordinates			Displacements
[m]	x [m]	y [m]	z [m]	z [mm]

Vertical Offset 1

0.0	20.96500	19.44800	0.00000	0.14551 d
0.49138	20.57211	19.15289	0.00000	0.13288 d
0.98276	20.17922	18.85778	0.00000	0.12126 d
1.4741	19.78633	18.56267	0.00000	0.11056 d



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Structure: B | Sub-structure: B16

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	
1.9655	19.39344	18.26756	0.00000	0.10070	d
2.4569	19.00056	17.97244	0.00000	0.091615	d
2.9483	18.60767	17.67733	0.00000	0.083242	d
3.4396	18.21478	17.38222	0.00000	0.075525	d
3.9310	17.82189	17.08711	0.00000	0.068412	d
4.4224	17.42900	16.79200	0.00000	0.061855	d

d - Displacements include imported displacements.

Structure: B | Sub-structure: B17

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	
0.0	17.42900	16.79200	0.00000	0.061855	d
0.49346	17.71689	16.39122	0.00000	0.063454	d
0.98692	18.00478	15.99044	0.00000	0.064978	d
1.4804	18.29267	15.58967	0.00000	0.066418	d
1.9738	18.58056	15.18889	0.00000	0.067767	d
2.4673	18.86844	14.78811	0.00000	0.069018	d
2.9608	19.15633	14.38733	0.00000	0.070166	d
3.4542	19.44422	13.98656	0.00000	0.071204	d
3.9477	19.73211	13.58578	0.00000	0.072127	d
4.4411	20.02000	13.18500	0.00000	0.072931	d

d - Displacements include imported displacements.

Structure: B | Sub-structure: B18

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	
0.0	20.02000	13.18500	0.00000	0.072931	d
0.48838	19.64200	12.87575	0.00000	0.065885	d
0.97677	19.26400	12.56650	0.00000	0.059408	d
1.4652	18.88600	12.25725	0.00000	0.053451	d
1.9535	18.50800	11.94800	0.00000	0.047973	d

d - Displacements include imported displacements.

Structure: B | Sub-structure: B19

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	
0.0	19.31100	10.90100	0.00000	0.049395	d
0.47300	18.93320	10.61640	0.00000	0.044353	d
0.94600	18.55540	10.33180	0.00000	0.039709	d
1.4190	18.17760	10.04720	0.00000	0.035429	d
1.8920	17.79980	9.76260	0.00000	0.031486	d
2.3650	17.42200	9.47800	0.00000	0.027853	d

d - Displacements include imported displacements.

Structure: B | Sub-structure: B20

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	
0.0	17.42200	9.47800	0.00000	0.027853	d
0.46116	17.70327	9.11255	0.00000	0.028080	d
0.92233	17.98455	8.74709	0.00000	0.028258	d
1.3835	18.26582	8.38164	0.00000	0.028387	d
1.8447	18.54709	8.01618	0.00000	0.028467	d
2.3058	18.82836	7.65073	0.00000	0.028498	d
2.7670	19.10964	7.28527	0.00000	0.028479	d
3.2281	19.39091	6.91982	0.00000	0.028412	d
3.6893	19.67218	6.55436	0.00000	0.028295	d
4.1505	19.95345	6.18891	0.00000	0.028130	d
4.6116	20.23473	5.82345	0.00000	0.027917	d
5.0728	20.51600	5.45800	0.00000	0.027659	d

d - Displacements include imported displacements.

Structure: C | Sub-structure: C1

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	
0.0	36.28600	29.95000	0.00000	10.348	d
0.45629	36.00978	30.31011	0.00000	9.7671	d
0.91259	35.72556	30.67022	0.00000	9.2544	d
1.3689	35.44533	31.03033	0.00000	8.7772	d
1.8252	35.16511	31.39044	0.00000	8.3187	d
2.2815	34.88489	31.75056	0.00000	7.8702	d
2.7378	34.60467	32.11067	0.00000	7.4276	d
3.1941	34.32444	32.47078	0.00000	6.9892	d
3.6504	34.04422	32.83089	0.00000	6.5552	d
4.1066	33.76400	33.19100	0.00000	6.1265	d

d - Displacements include imported displacements.

Structure: C | Sub-structure: C2

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	
0.0	33.76400	33.19100	0.00000	6.1265	d
0.48792	33.36471	32.91057	0.00000	6.0406	d
0.97595	32.96543	32.63014	0.00000	5.9532	d
1.4638	32.56614	32.34971	0.00000	5.7712	d
1.9517	32.16686	32.06929	0.00000	5.5423	d
2.4396	31.76757	31.78886	0.00000	5.2958	d
2.9275	31.36829	31.50843	0.00000	5.0348	d
3.4155	30.96900	31.22800	0.00000	4.7645	d

d - Displacements include imported displacements.

Structure: C | Sub-structure: C3

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	



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Vertical Offset 1
 0.0 30.96900 31.22800 0.00000 4.7645 d
 0.48944 30.68767 31.62850 0.00000 4.4571 d
 0.97887 30.40633 32.02900 0.00000 4.1439 d
 1.46893 30.12500 32.42950 0.00000 3.8299 d
 1.9577 29.84367 32.83000 0.00000 3.5192 d
 2.4472 29.56233 33.23050 0.00000 3.2156 d
 2.9366 29.28100 33.63100 0.00000 2.9223 d
 d - Displacements include imported displacements.

Structure: C | Sub-structure: C4

Dist.	Coordinates			Displacements
	x	y	z	z
	[m]	[m]	[m]	[mm]

Vertical Offset 1
 0.0 29.28100 33.63100 0.00000 2.9223 d
 0.48464 29.66840 33.92220 0.00000 3.0617 d
 0.96928 30.05580 34.21340 0.00000 3.1905 d
 1.4539 30.44320 34.50460 0.00000 3.3070 d
 1.9386 30.83060 34.79580 0.00000 3.4096 d
 2.4232 31.21800 35.08700 0.00000 3.4770 d
 d - Displacements include imported displacements.

Structure: C | Sub-structure: C5

Dist.	Coordinates			Displacements
	x	y	z	z
	[m]	[m]	[m]	[mm]

Vertical Offset 1
 0.0 31.21800 35.08700 0.00000 3.4770 d
 0.42208 31.62400 35.45540 0.00000 3.3789 d
 0.84417 31.63000 35.82380 0.00000 3.2803 d
 1.2663 31.83600 36.19220 0.00000 3.1819 d
 1.6883 32.04200 36.56060 0.00000 3.0836 d
 2.1104 32.24800 36.92900 0.00000 2.9857 d
 d - Displacements include imported displacements.

Structure: C | Sub-structure: C6

Dist.	Coordinates			Displacements
	x	y	z	z
	[m]	[m]	[m]	[mm]

Vertical Offset 1
 0.0 32.24800 36.92900 0.00000 2.9857 d
 0.46414 32.62185 37.20408 0.00000 3.0094 d
 0.92829 32.99569 37.47915 0.00000 3.0318 d
 1.3924 33.36954 37.75423 0.00000 3.0526 d
 1.8566 33.74338 38.02931 0.00000 3.0719 d
 2.3207 34.11723 38.30438 0.00000 3.0894 d
 2.7849 34.49108 38.57946 0.00000 3.1051 d
 3.2490 34.86492 38.85454 0.00000 3.1189 d
 3.7131 35.23877 39.12962 0.00000 3.1308 d
 4.1773 35.61262 39.40469 0.00000 3.1407 d
 4.6414 35.98646 39.67977 0.00000 3.1485 d
 5.1056 36.36031 39.95485 0.00000 3.1542 d
 5.5697 36.73415 40.22992 0.00000 3.1579 d
 6.0339 37.10800 40.50500 0.00000 3.1594 d
 d - Displacements include imported displacements.

Structure: C | Sub-structure: C7

Dist.	Coordinates			Displacements
	x	y	z	z
	[m]	[m]	[m]	[mm]

Vertical Offset 1
 0.0 37.10800 40.50500 0.00000 3.1594 d
 0.44342 37.37100 40.14800 0.00000 3.4866 d
 d - Displacements include imported displacements.

Structure: C | Sub-structure: C8

Dist.	Coordinates			Displacements
	x	y	z	z
	[m]	[m]	[m]	[mm]

Vertical Offset 1
 0.0 37.37100 40.14800 0.00000 3.4866 d
 0.49716 37.77140 40.44270 0.00000 3.4855 d
 0.99432 38.17180 40.73740 0.00000 3.4818 d
 1.4915 38.57220 41.03210 0.00000 3.4755 d
 1.9886 38.97260 41.32680 0.00000 3.4667 d
 2.4858 39.37300 41.62150 0.00000 3.4553 d
 2.9830 39.77340 41.91620 0.00000 3.4415 d
 3.4801 40.17380 42.21090 0.00000 3.4254 d
 3.9773 40.57420 42.50560 0.00000 3.4071 d
 4.4744 40.97460 42.80030 0.00000 3.3868 d
 4.9716 41.37500 43.09500 0.00000 3.3646 d
 d - Displacements include imported displacements.

Structure: C | Sub-structure: C9

Dist.	Coordinates			Displacements
	x	y	z	z
	[m]	[m]	[m]	[mm]

Vertical Offset 1
 0.0 41.37500 43.09500 0.00000 3.3646 d
 0.43642 41.63367 42.74350 0.00000 3.6908 d
 0.87284 41.89233 42.39200 0.00000 4.0342 d
 1.3093 42.15100 42.04050 0.00000 4.3936 d
 1.7457 42.40967 41.68900 0.00000 4.7680 d
 2.1821 42.66833 41.33750 0.00000 5.1560 d
 2.6185 42.92700 40.98600 0.00000 5.5561 d
 d - Displacements include imported displacements.

Structure: C | Sub-structure: C10

Dist.	Coordinates			Displacements
	x	y	z	z
	[m]	[m]	[m]	[mm]

Vertical Offset 1
 0.0 42.92700 40.98600 0.00000 5.5561 d
 0.41162 42.59550 40.74200 0.00000 5.5948 d
 0.82323 42.26400 40.49800 0.00000 5.6309 d
 d - Displacements include imported displacements.

Structure: C | Sub-structure: C11

Dist.	Coordinates			Displacements
	x	y	z	z
	[m]	[m]	[m]	[mm]

Vertical Offset 1
 0.0 42.26400 40.49800 0.00000 5.6309 d



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Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
0.49410	42.55680	40.10000	0.00000	6.1086 d
0.98820	42.84960	39.70200	0.00000	6.6000 d
1.4823	43.14240	39.30400	0.00000	7.1041 d
1.9764	43.43520	38.90600	0.00000	7.6206 d
2.4705	43.72800	38.50800	0.00000	8.1509 d
2.9646	44.02080	38.11000	0.00000	8.6988 d
3.4587	44.31360	37.71200	0.00000	9.2712 d
3.9528	44.60640	37.31400	0.00000	9.8835 d
4.4469	44.89920	36.91600	0.00000	10.562 d
4.9410	45.19200	36.51800	0.00000	11.355 d

d - Displacements include imported displacements.

Structure: C | Sub-structure: C12

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	45.19200	36.51800	0.00000	11.355 d
0.48113	44.80478	36.23243	0.00000	11.523 d
0.96226	44.41757	35.94687	0.00000	11.665 d
1.4434	44.03035	35.66130	0.00000	11.784 d
1.9245	43.64313	35.37574	0.00000	11.882 d
2.4056	43.25591	35.09017	0.00000	11.960 d
2.8868	42.86870	34.80461	0.00000	12.021 d
3.3679	42.48148	34.51904	0.00000	12.064 d
3.8490	42.09426	34.23348	0.00000	12.091 d
4.3302	41.70704	33.94791	0.00000	12.103 d
4.8113	41.31983	33.66235	0.00000	12.100 d
5.2924	40.93261	33.37678	0.00000	12.081 d
5.7735	40.54539	33.09122	0.00000	12.047 d
6.2547	40.15817	32.80565	0.00000	11.998 d
6.7358	39.77096	32.52009	0.00000	11.932 d
7.2169	39.38374	32.23452	0.00000	11.848 d
7.6981	38.99652	31.94896	0.00000	11.747 d
8.1792	38.60930	31.66339	0.00000	11.625 d
8.6603	38.22209	31.37783	0.00000	11.482 d
9.1414	37.83487	31.09226	0.00000	11.314 d
9.6226	37.44765	30.80670	0.00000	11.120 d
10.1037	37.06043	30.52113	0.00000	10.895 d
10.5848	36.67322	30.23557	0.00000	10.638 d
11.0659	36.28600	29.95000	0.00000	10.348 d

d - Displacements include imported displacements.

Structure: D | Sub-structure: D1

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	27.55900	34.85000	0.00000	1.7363 d
0.48439	27.27278	35.24078	0.00000	1.5403 d
0.96877	26.98656	35.63156	0.00000	1.3601 d
1.45315	26.70033	36.02233	0.00000	1.1950 d
1.93753	26.41411	36.41311	0.00000	1.0436 d
2.42191	26.12789	36.80389	0.00000	0.90393 d
2.90629	25.84167	37.19467	0.00000	0.77370 d
3.39067	25.55544	37.58544	0.00000	0.64892 d
3.87505	25.26922	37.97622	0.00000	0.52910 d
4.35943	24.98300	38.36700	0.00000	0.40722 d

d - Displacements include imported displacements.

Structure: D | Sub-structure: D2

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	24.98300	38.36700	0.00000	0.40722 d
0.49046	24.58738	38.07712	0.00000	0.37253 d
0.98091	24.19176	37.78725	0.00000	0.33506 d
1.47136	23.79613	37.49737	0.00000	0.29484 d
1.96181	23.40050	37.20750	0.00000	0.25176 d
2.45226	23.00488	36.91763	0.00000	0.20563 d
2.94271	22.60925	36.62775	0.00000	0.17700 d
3.43316	22.21363	36.33788	0.00000	0.16857 d
3.92361	21.81800	36.04800	0.00000	0.16030 d

d - Displacements include imported displacements.

Structure: D | Sub-structure: D3

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	21.81800	36.04800	0.00000	0.16030 d
0.47627	21.54300	36.43686	0.00000	0.14855 d
0.95254	21.26800	36.82571	0.00000	0.13755 d
1.42881	20.99300	37.21457	0.00000	0.12724 d
1.90508	20.71800	37.60343	0.00000	0.11760 d
2.38134	20.44300	37.99228	0.00000	0.10857 d
2.85761	20.16800	38.38114	0.00000	0.10013 d
3.33387	19.89300	38.77000	0.00000	0.092232 d

d - Displacements include imported displacements.

Structure: D | Sub-structure: D4

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	19.89300	38.77000	0.00000	0.092232 d
0.48525	20.28585	39.05485	0.00000	0.096710 d
0.97050	20.67870	39.33970	0.00000	0.10124 d
1.45575	21.07155	39.62455	0.00000	0.10582 d
1.94100	21.46439	39.90939	0.00000	0.11043 d
2.42625	21.85724	40.19424	0.00000	0.11507 d
2.91150	22.25009	40.47909	0.00000	0.11971 d
3.39675	22.64294	40.76394	0.00000	0.12435 d
3.88200	23.03579	41.04879	0.00000	0.12897 d
4.36725	23.42864	41.33364	0.00000	0.13356 d
4.85250	23.82148	41.61848	0.00000	0.13809 d
5.33775	24.21433	41.90333	0.00000	0.14265 d
5.82300	24.60718	42.18818	0.00000	0.14692 d
6.30825	25.00003	42.47303	0.00000	0.15120 d
6.79350	25.39288	42.75788	0.00000	0.15534 d
7.27875	25.78573	43.04273	0.00000	0.15935 d
7.76400	26.17858	43.32758	0.00000	0.16320 d
8.24925	26.57142	43.61242	0.00000	0.16688 d
8.73450	26.96427	43.89727	0.00000	0.17037 d
9.21975	27.35712	44.18212	0.00000	0.17364 d
9.70500	27.74997	44.46697	0.00000	0.17670 d
10.19025	28.14282	44.75182	0.00000	0.17951 d
10.67550	28.53567	45.03667	0.00000	0.18207 d
11.16075	28.92852	45.32152	0.00000	0.18437 d
11.64600	29.32136	45.60636	0.00000	0.18639 d
12.13125	29.71421	45.89121	0.00000	0.18812 d
12.61650	30.10706	46.17606	0.00000	0.18956 d
13.10175	30.49991	46.46091	0.00000	0.19069 d
13.58700	30.89276	46.74576	0.00000	0.19152 d



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Structure: D | Sub-structure: D5

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	
14.072	31.28561	47.03061	0.00000	0.19202	d
14.558	31.67845	47.31545	0.00000	0.19222	d
15.043	32.07130	47.60030	0.00000	0.19209	d
15.528	32.46415	47.88515	0.00000	0.19165	d
16.013	32.85700	48.17000	0.00000	0.19089	d

d - Displacements include imported displacements.

Structure: D | Sub-structure: D6

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	
0.0	32.85700	48.17000	0.00000	0.19089	d
0.44175	33.11971	47.81486	0.00000	0.20734	d
0.88350	33.38243	47.45971	0.00000	0.22516	d
1.3253	33.64514	47.10457	0.00000	0.24445	d
1.7670	33.90786	46.74943	0.00000	0.26537	d
2.2088	34.17057	46.39429	0.00000	0.32050	d
2.6505	34.43329	46.03914	0.00000	0.46046	d
3.0923	34.69600	45.68400	0.00000	0.59552	d

d - Displacements include imported displacements.

Structure: D | Sub-structure: D7

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	
0.0	34.69600	45.68400	0.00000	0.59552	d
0.38681	34.38500	45.45400	0.00000	0.59626	d
0.77362	34.07400	45.22400	0.00000	0.59661	d
1.1604	33.76300	44.99400	0.00000	0.59657	d

d - Displacements include imported displacements.

Structure: D | Sub-structure: D8

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	
0.0	33.76300	44.99400	0.00000	0.59657	d
0.45636	34.03370	44.62660	0.00000	0.73557	d
0.91271	34.30440	44.25920	0.00000	0.87762	d
1.3691	34.57510	43.89180	0.00000	1.0263	d
1.8254	34.84580	43.52440	0.00000	1.1850	d
2.2818	35.11650	43.15700	0.00000	1.3564	d
2.7381	35.38720	42.78960	0.00000	1.5430	d
3.1945	35.65790	42.42220	0.00000	1.7469	d
3.6509	35.92860	42.05480	0.00000	1.9699	d
4.1072	36.19930	41.68740	0.00000	2.2131	d
4.5636	36.47000	41.32000	0.00000	2.4777	d

d - Displacements include imported displacements.

Structure: A | Sub-structure: A1

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	4.3040	Hogging	0.0037013	0.048822	0.050799	-707.22E-6	-802.78E-6	11859	1 (Very Slight)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Specific Building Damage Results - All Segments

Structure: A | Sub-structure: A2

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	2.5130	Sagging	859.05E-6	60.661E-6	847.11E-6	0.0	-225.78E-6	24876	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: A | Sub-structure: A3

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	3.7820	Hogging	0.031505	0.070772	0.085669	-707.22E-6	-0.0034711	462.87	2 (Slight)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: A | Sub-structure: A4



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Vertical Offset from Line for Vertical Movement Calculations	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] [m] 0.0 3.8980	Sagging	[%] 0.024695	[%] 9.2819E-6	[%] 0.022287	0.0	-0.0010218	[m] 1274.5	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: A | Sub-structure: A5

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] [m] 0.0 7.9890	Hogging	[%] 0.029609	[%] 0.059492	[%] 0.086723	-707.46E-6	0.0034555	[m] 497.23	2 (Slight)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: A | Sub-structure: A6

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] [m] 0.0 6.3580	Sagging	[%] 937.34E-6	[%] 14.493E-6	[%] 0.0012010	0.0	61.238E-6	[m] 73885.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B1

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0		[m] [m]		[%]	[%]	[%]			[m]	

All settlements are less than the Settlement Trough Limit Sensitivity. Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B2

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0		[m] [m]		[%]	[%]	[%]			[m]	

All settlements are less than the Settlement Trough Limit Sensitivity. Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B3

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] [m] 1.8767 3.2833	Hogging	[%] 200.78E-6	[%] 0.0	[%] 197.02E-6	0.0	-35.065E-6	[m] 159460.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B4

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] [m] 0.0 1.0810	Sagging	[%] 17.835E-6	[%] 0.0	[%] 17.703E-6	0.0	4.4629E-6	[m] 653300.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B5

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] [m] 0.0 0.18438	Sagging	[%] 0.0	[%] 0.0	[%] 0.0	0.0	-37.197E-6	[m] 45839.	0 (Negligible)
	2	[m] [m] 0.18438 1.6879	Hogging	[%] 0.0015022	[%] 0.016812	[%] 0.017135	-374.85E-6	-100.93E-6	[m] 16163.	0 (Negligible)
	3	[m] [m] 1.8723 0.29326	Sagging	[%] 132.80E-6	[%] 0.037499	[%] 0.037509	-374.85E-6	-99.123E-6	[m] 183230.	0 (Negligible)
	4	[m] [m] 2.1656 4.1984	Hogging	[%] 0.0033877	[%] 0.037499	[%] 0.039267	-374.85E-6	-322.53E-6	[m] 10445.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B6

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] [m] 0.0 1.0680	Sagging	[%] 74.856E-6	[%] 0.0	[%] 74.637E-6	0.0	-23.668E-6	[m] 149490.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B7

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] [m] 0.0 1.1000	Hogging	[%] 0.0012490	[%] 0.037492	[%] 0.037668	-374.78E-6	-445.74E-6	[m] 9715.6	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B8

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0		[m] [m]		[%]	[%]	[%]			[m]	



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Movement Calculations	Displacement Curve	Curve
[m] 0.0	[m] [m] 1 0.0 6.8288	Sagging 827.17E-6 [%] [%] 0.0 0.0010872 0.0 41.643E-6 [m] 96000.0
2 6.8288 1.4951	Hogging 0.0016191 -0.0072159 0.0017337	181.60E-6 44.133E-6 15374.0 (Negligible) 0
3 8.3239 2.2901	Sagging 0.0010570 -0.016041 0.0032621	181.60E-6 59.530E-6 26353.0 (Negligible) 0

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B9

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] [m] 0.0 2.5960	Hogging	0.0027428	0.0027267	0.028169	-291.14E-6	394.34E-6	[m] 11212.0	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B10

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] [m] 0.0 1.7410	Sagging	304.40E-6	-0.0062433	0.0012605	68.805E-6	-19.946E-6	[m] 69954.0	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B11

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] [m] 0.0 2.3950	Hogging	0.0014227	0.034948	0.035381	-353.31E-6	186.86E-6	[m] 14400.0	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B12

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] [m] 0.0 0.94600	Sagging	60.539E-6	-0.0020744	416.31E-6	21.452E-6	-6.9308E-6	[m] 193420.0	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B13

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] [m] 0.0 0.72003	Sagging	115.24E-6	0.037305	0.037327	-373.08E-6	92.599E-6	[m] 49916.0	0 (Negligible)
	2	[m] [m] 0.72003 2.0360	Hogging	0.0016008	0.012028	0.012443	-373.08E-6	114.51E-6	[m] 13625.0	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B14

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] [m] 0.0 2.2170	Sagging	18.895E-6	0.0	18.275E-6	0.0	9.0510E-6	[m] 1.1494E+6	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B15

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] [m] 0.0 1.9655	Hogging	93.307E-6	0.0	92.661E-6	0.0	25.701E-6	[m] 232850.0	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B16

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	All settlements are less than the Settlement Trough Limit Sensitivity.									[m]

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B17

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	All settlements are less than the Settlement Trough Limit Sensitivity.									[m]

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B18

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m] [m]		[%]	[%]	[%]			[m]	



A-SQUARED STUDIO

1_8StCuthber_LongTermScheme

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Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
0.0	All settlements are less than the Settlement Trough Limit Sensitivity. Tensile horizontal strains are +ve, compressive horizontal strains are -ve.									
Structure: B Sub-structure: B19										
0.0	All settlements are less than the Settlement Trough Limit Sensitivity. Tensile horizontal strains are +ve, compressive horizontal strains are -ve.									
Structure: B Sub-structure: B20										
0.0	All settlements are less than the Settlement Trough Limit Sensitivity. Tensile horizontal strains are +ve, compressive horizontal strains are -ve.									
Structure: C Sub-structure: C1										
0.0	1	0.0	4.1060	Hogging	0.0039735	0.069600	0.071631	-760.70E-6	0.0012711	2752.1 1 (Very Slight)
Tensile horizontal strains are +ve, compressive horizontal strains are -ve.										
Structure: C Sub-structure: C2										
0.0	1	0.0	0.22832	None	0.0	66.820E-6	66.841E-6	0.0	176.05E-6	10918. (Negligible) 0
	2	0.22832	3.1867	Sagging	0.0061770	-0.026982	0.0063906	412.99E-6	554.16E-6	4031.2 (Negligible) 0
Tensile horizontal strains are +ve, compressive horizontal strains are -ve.										
Structure: C Sub-structure: C3										
0.0	1	0.0	1.0958	Sagging	297.76E-6	0.026478	0.026561	-313.92E-6	641.48E-6	34312. (Negligible) 0
	2	1.0958	1.8402	Hogging	694.10E-6	0.035262	0.035425	-382.02E-6	641.48E-6	21739. (Negligible) 0
Tensile horizontal strains are +ve, compressive horizontal strains are -ve.										
Structure: C Sub-structure: C4										
0.0	1	0.0	2.4230	Sagging	0.0021378	-0.017636	0.0037244	201.45E-6	-287.73E-6	5806.3 (Negligible) 0
Tensile horizontal strains are +ve, compressive horizontal strains are -ve.										
Structure: C Sub-structure: C5										
0.0	1	0.0	0.85466	Sagging	9.9680E-6	0.0093349	0.0093371	-93.523E-6	233.21E-6	850580. (Negligible) 0
	2	0.85466	1.2553	Hogging	21.434E-6	0.0092533	0.0092567	-92.836E-6	233.21E-6	482760. (Negligible) 0
Tensile horizontal strains are +ve, compressive horizontal strains are -ve.										
Structure: C Sub-structure: C6										
0.0	1	0.0	6.0330	Sagging	657.92E-6	6.1482E-6	814.35E-6	0.0	-51.126E-6	101990. (Negligible) 0
Tensile horizontal strains are +ve, compressive horizontal strains are -ve.										
Structure: C Sub-structure: C7										
0.0	1	0.0	0.44300	None	0.0	0.056654	0.056654	-566.22E-6	-737.46E-6	1 (Very Slight)
Tensile horizontal strains are +ve, compressive horizontal strains are -ve.										
Structure: C Sub-structure: C8										
0.0	1	0.0	4.9710	Sagging	596.74E-6	6.0466E-6	652.85E-6	0.0	44.622E-6	95103. (Negligible) 0
Tensile horizontal strains are +ve, compressive horizontal strains are -ve.										



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Vertical Offset from Line for Vertical Movement Segment Start Length Curvature Deflection Ratio Average Horizontal Strain Max Tensile Strain Max Gradient of Horizontal Displacement Max Gradient of Vertical Displacement Curve Min Radius of Curvature Damage Category

Structure: C | Sub-structure: C9

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] [m] 0.0 2.6180	Hogging	[%] 0.0025383	[%] 0.059017	[%] 0.059859	-610.04E-6	-916.16E-6	[m] 10919.1	1 (Very Slight)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C10

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] [m] 0.0 0.82300	Sagging	[%] 154.93E-6	[%] 6.5044E-6	[%] 156.82E-6	0.0	-94.098E-6	[m] 65751.1	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C11

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] [m] 0.0 4.9410	Hogging	[%] 0.0074214	[%] 0.068699	[%] 0.073205	-764.30E-6	-0.0016050	[m] 1914.1	1 (Very Slight)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C12

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] [m] 0.0 11.065	Sagging	[%] 0.010999	[%] 6.7646E-6	[%] 0.016677	0.0	604.62E-6	[m] 6710.6	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: D | Sub-structure: D1

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] [m] 0.0 3.8660	Hogging	[%] 0.0022970	[%] 0.033457	[%] 0.034566	-424.81E-6	404.52E-6	[m] 14618.0	0 (Negligible)
	2	[m] [m] 3.8660 0.49297	Sagging	[%] 3.9337E-6	[%] 0.031942	[%] 0.031943	-319.39E-6	251.54E-6	[m] 113740.0	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: D | Sub-structure: D2

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] [m] 0.0 1.7530	Sagging	[%] 259.83E-6	[%] 798.55E-6	[%] 912.85E-6	-17.806E-6	87.825E-6	[m] 83585.0	0 (Negligible)
	2	[m] [m] 1.7530 1.9332	Hogging	[%] 0.0014449	[%] 0.0011218	[%] 0.0020341	-24.416E-6	94.056E-6	[m] 16605.0	0 (Negligible)
	3	[m] [m] 3.6862 0.23683	Sagging	[%] 0.0	[%] 0.0	[%] 0.0	0.0	16.865E-6	[m] 49716.0	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: D | Sub-structure: D3

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] [m] 0.0 2.8576	Hogging	[%] 103.61E-6	[%] 0.0	[%] 102.10E-6	0.0	24.657E-6	[m] 303240.0	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: D | Sub-structure: D4

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] [m] 0.97050 1.7592	Hogging	[%] 2.2423E-6	[%] 0.0	[%] 2.2531E-6	0.0	-9.5733E-6	[m] 5.1476E+6	0 (Negligible)
	2	[m] [m] 2.7297 13.283	Sagging	[%] 154.87E-6	[%] 0.0	[%] 233.71E-6	0.0	-9.5733E-6	[m] 741470.0	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: D | Sub-structure: D5

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] [m] 0.0 2.8230	Hogging	[%] 0.0045064	[%] 0.0095587	[%] 0.011167	-374.84E-6	-316.71E-6	[m] 3951.5	0 (Negligible)
	2	[m] [m] 2.8230 0.26904	None	[%] 0.0	[%] 0.037498	[%] 0.037498	-374.84E-6	-305.61E-6	[m] 7145.1	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: D | Sub-structure: D6

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] [m] 0.0 1.1600	Sagging	[%] 33.557E-6	[%] 2.4091E-6	[%] 34.225E-6	0.0	-1.9012E-6	[m] 376930.0	0



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Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement	Min Radius of Curvature	Damage Category
Tensile horizontal strains are +ve, compressive horizontal strains are -ve.										
Structure: D Sub-structure: D7										

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement	Min Radius of Curvature	Damage Category	
Calculations		[m]	[m]	[%]	[%]	[%]			[m]		
0.0	1	0.0	4.5630	Hogging	0.0039883	0.043543	0.045793	-554.16E-6	-579.47E-6	9658.1	0
Tensile horizontal strains are +ve, compressive horizontal strains are -ve.											
Structure: D Sub-structure: D8											

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement	Min Radius of Curvature	Damage Category	
Calculations		[m]	[m]	[%]	[%]	[%]			[m]		
0.0	1	0.0	11.012	Sagging	0.0025864	-0.0027450	0.0011735	118.56E-6	199.44E-6	11459.	0
Tensile horizontal strains are +ve, compressive horizontal strains are -ve.											

Specific Building Damage Results - Critical Values for All Segments within Each Sub-Structure

Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Calculations	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0037013	0.048822	-802.78E-6	4.7859	0.050799	-707.22E-6	-802.78E-6	11859.	-	1 (Very Slight)

Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Calculations	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	859.05E-6	60.661E-6	-225.78E-6	5.2924	847.11E-6	0.0	-225.78E-6	-	24876.	0 (Negligible)

Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Calculations	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.031505	0.070772	-0.0034711	12.280	0.085669	-707.22E-6	-0.0034711	462.87	-	2 (Slight)

Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Calculations	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.024695	9.2819E-6	-0.0010218	13.351	0.022287	0.0	-0.0010218	-	1274.5	0 (Negligible)

Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Calculations	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.029609	0.059492	0.0034555	12.493	0.086723	-707.46E-6	0.0034555	497.23	-	2 (Slight)

Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Calculations	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	937.34E-6	14.493E-6	61.238E-6	2.0882	0.0012010	0.0	61.238E-6	-	73885.	0 (Negligible)

Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Calculations	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0										

Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Calculations	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0										

Vertical Offset from Line for Vertical Movement	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Calculations	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0										



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[m]	[%]	[%]	[mm]	[%]	[m]	[m]	[m]	[m]	[m]	[m]	[m]	
0.0	200.78E-6	0.0	-35.065E-6	0.19232	197.02E-6	0.0	-35.065E-6	159460.				0 (Negligible)
Structure: B Sub-structure: B4												
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)			Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]			
0.0	17.835E-6	0.0	4.4629E-6	0.19235	17.703E-6	0.0	4.4629E-6		65300.			0 (Negligible)
Structure: B Sub-structure: B5												
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)			Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]			
0.0	0.0032877	0.037499	-322.53E-6	1.1153	0.039267	-374.85E-6	-322.53E-6	10445.	45839.			0 (Negligible)
Structure: B Sub-structure: B6												
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)			Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]			
0.0	74.856E-6	0.0	-23.668E-6	1.1385	74.637E-6	0.0	-23.668E-6		149490.			0 (Negligible)
Structure: B Sub-structure: B7												
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)			Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]			
0.0	0.0012490	0.037492	-445.74E-6	1.5877	0.037668	-374.78E-6	-445.74E-6	9715.6				0 (Negligible)
Structure: B Sub-structure: B8												
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)			Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]			
0.0	0.0016191	-0.016041	59.530E-6	1.6134	0.0032621	181.60E-6	59.530E-6	15374.	26353.			0 (Negligible)
Structure: B Sub-structure: B9												
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)			Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]			
0.0	0.0027428	0.027267	394.34E-6	1.4289	0.028169	-291.14E-6	394.34E-6	11212.				0 (Negligible)
Structure: B Sub-structure: B10												
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)			Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]			
0.0	304.40E-6	-0.0062433	-19.946E-6	0.66637	0.0012605	68.805E-6	-19.946E-6		69954.			0 (Negligible)
Structure: B Sub-structure: B11												
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)			Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]			
0.0	0.0014227	0.034948	186.86E-6	0.66637	0.035381	-353.31E-6	186.86E-6	14400.				0 (Negligible)
Structure: B Sub-structure: B12												
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)			Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]			
0.0	60.539E-6	-0.0020744	-6.9308E-6	0.34755	416.31E-6	21.452E-6	-6.9308E-6		193420.			0 (Negligible)
Structure: B Sub-structure: B13												
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)			Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]			
0.0	0.0016008	0.037305	114.51E-6	0.34755	0.037327	-373.08E-6	114.51E-6	13625.	49916.			0 (Negligible)
Structure: B Sub-structure: B14												
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)			Damage Category
[m]	[%]	[%]		[mm]	[%]			[m]	[m]			
0.0	18.895E-6	0.0	9.0510E-6	0.16429	18.275E-6	0.0	9.0510E-6		-1.1494E+6			0 (Negligible)



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Vertical Offset from Line for Vertical	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Structure: B Sub-structure: B15										
Calculations	[%]	[%]	[mm]	[mm]	[%]	[mm]	[mm]	[m]	[m]	- 0 (Negligible)
0.0	93.307E-6	0.0	25.701E-6	0.14551	92.661E-6	0.0	25.701E-6	232850.		
Structure: B Sub-structure: B16										
Calculations	[%]	[%]	[mm]	[mm]	[%]	[mm]	[mm]	[m]	[m]	
Structure: B Sub-structure: B17										
Calculations	[%]	[%]	[mm]	[mm]	[%]	[mm]	[mm]	[m]	[m]	
Structure: B Sub-structure: B18										
Calculations	[%]	[%]	[mm]	[mm]	[%]	[mm]	[mm]	[m]	[m]	
Structure: B Sub-structure: B19										
Calculations	[%]	[%]	[mm]	[mm]	[%]	[mm]	[mm]	[m]	[m]	
Structure: B Sub-structure: B20										
Calculations	[%]	[%]	[mm]	[mm]	[%]	[mm]	[mm]	[m]	[m]	
Structure: C Sub-structure: C1										
Calculations	[%]	[%]	[mm]	[mm]	[%]	[mm]	[mm]	[m]	[m]	- 1 (Very Slight)
0.0	0.0039735	0.069600	0.0012711	10.348	0.071631	-760.70E-6	0.0012711	2752.1		
Structure: C Sub-structure: C2										
Calculations	[%]	[%]	[mm]	[mm]	[%]	[mm]	[mm]	[m]	[m]	- 4031.2 0 (Negligible)
0.0	0.0061770	-0.026982	554.16E-6	6.1265	0.0063906	412.99E-6	554.16E-6			
Structure: C Sub-structure: C3										
Calculations	[%]	[%]	[mm]	[mm]	[%]	[mm]	[mm]	[m]	[m]	0 (Negligible)
0.0	694.10E-6	0.035262	641.48E-6	4.7645	0.035425	-382.02E-6	641.48E-6	21739.	34312.	
Structure: C Sub-structure: C4										
Calculations	[%]	[%]	[mm]	[mm]	[%]	[mm]	[mm]	[m]	[m]	5806.3 0 (Negligible)
0.0	0.0021378	-0.017636	-287.73E-6	3.4770	0.0037244	201.45E-6	-287.73E-6			
Structure: C Sub-structure: C5										
Calculations	[%]	[%]	[mm]	[mm]	[%]	[mm]	[mm]	[m]	[m]	850580. 0 (Negligible)
0.0	21.434E-6	0.0093349	233.21E-6	3.4770	0.0093371	-93.523E-6	233.21E-6	482760.		
Structure: C Sub-structure: C6										
Calculations	[%]	[%]	[mm]	[mm]	[%]	[mm]	[mm]	[m]	[m]	



A-SQUARED STUDIO

1_8StCuthber_LongTermScheme

Job No.	Sheet No.	Rev.
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[m]	[%]	[%]	[mm]	[%]	[m]	[m]	[m]	[m]	[m]	[m]	[m]
0.0	657.92E-6	6.1482E-6	-51.126E-6	3.1594	814.35E-6	0.0	-51.126E-6	-	101990.0	0	(Negligible)
Structure: C Sub-structure: C7											
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category	
[m]	[%]	[%]		[mm]	[%]			[m]	[m]		
0.0	0.0	0.056654	-737.46E-6	3.4863	0.056654	-566.22E-6	-737.46E-6	-	-	1	(Very Slight)
Structure: C Sub-structure: C8											
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category	
[m]	[%]	[%]		[mm]	[%]			[m]	[m]		
0.0	596.74E-6	6.0466E-6	44.622E-6	3.4866	652.85E-6	0.0	44.622E-6	-	-	0	(Negligible)
Structure: C Sub-structure: C9											
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category	
[m]	[%]	[%]		[mm]	[%]			[m]	[m]		
0.0	0.0025383	0.059017	-916.16E-6	5.5556	0.059859	-610.04E-6	-916.16E-6	10919.1	-	1	(Very Slight)
Structure: C Sub-structure: C10											
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category	
[m]	[%]	[%]		[mm]	[%]			[m]	[m]		
0.0	154.93E-6	6.5044E-6	-94.098E-6	5.6309	156.82E-6	0.0	-94.098E-6	-	-	0	(Negligible)
Structure: C Sub-structure: C11											
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category	
[m]	[%]	[%]		[mm]	[%]			[m]	[m]		
0.0	0.0074214	0.068699	-0.0016050	11.355	0.073205	-764.30E-6	-0.0016050	1914.1	-	1	(Very Slight)
Structure: C Sub-structure: C12											
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category	
[m]	[%]	[%]		[mm]	[%]			[m]	[m]		
0.0	0.010999	6.7646E-6	604.62E-6	12.103	0.016677	0.0	604.62E-6	-	-	0	(Negligible)
Structure: D Sub-structure: D1											
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category	
[m]	[%]	[%]		[mm]	[%]			[m]	[m]		
0.0	0.0022970	0.033457	404.52E-6	1.7363	0.034566	-424.81E-6	404.52E-6	14618.1	113740.0	0	(Negligible)
Structure: D Sub-structure: D2											
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category	
[m]	[%]	[%]		[mm]	[%]			[m]	[m]		
0.0	0.0014449	0.0011218	94.056E-6	0.40722	0.0020341	-24.416E-6	94.056E-6	16605.1	49716.0	0	(Negligible)
Structure: D Sub-structure: D3											
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category	
[m]	[%]	[%]		[mm]	[%]			[m]	[m]		
0.0	103.61E-6	0.0	24.657E-6	0.16030	102.10E-6	0.0	24.657E-6	303240.0	-	0	(Negligible)
Structure: D Sub-structure: D4											
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category	
[m]	[%]	[%]		[mm]	[%]			[m]	[m]		
0.0	154.87E-6	0.0	-9.5733E-6	0.19221	233.71E-6	0.0	-9.5733E-6	5.1476E+6	741470.0	0	(Negligible)
Structure: D Sub-structure: D5											
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category	
[m]	[%]	[%]		[mm]	[%]			[m]	[m]		
0.0	0.0045064	0.037498	-316.71E-6	0.59544	0.037498	-374.84E-6	-316.71E-6	3951.5	-	0	(Negligible)



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Vertical Offset from Line for Vertical	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Structure: D Sub-structure: D6										
Calculations	[m]	[%]	[%]	[mm]	[%]			[m]	[m]	
0.0	33.557E-6	2.4091E-6	-1.9012E-6	0.59661	34.225E-6	0.0	-1.9012E-6	-	376930.0	0 (Negligible)
Structure: D Sub-structure: D7										
Calculations	[m]	[%]	[%]	[mm]	[%]			[m]	[m]	
0.0	0.0039883	0.043543	-579.47E-6	2.4774	0.045793	-554.16E-6	-579.47E-6	9658.1	-	0 (Negligible)
Structure: D Sub-structure: D8										
Calculations	[m]	[%]	[%]	[mm]	[%]			[m]	[m]	
0.0	0.0025864	-0.0027450	199.44E-6	2.4777	0.0011735	118.56E-6	199.44E-6	-	11459.0	0 (Negligible)

Specific Building Damage Results - Critical Segments within Each Structure

Structure Name	Parameter	Critical Sub-Structure	Critical Segment	Start	End	Curvature	Max Slope	Max Settlement	Max Tensile Strain	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
A	Max Slope	A3		1	0.0	3.7820 Hogging	0.0034711	12.280	0.085669	462.87	-	2 (Slight)
	Max Settlement	A4		1	0.0	3.8980 Sagging	0.0010218	13.351	0.022287	-	1274.50	0 (Negligible)
	Max Tensile Strain	A5		1	0.0	7.9890 Hogging	0.0034555	12.493	0.086723	497.23	-	2 (Slight)
	Min Radius of Curvature (Hogging)	A3		1	0.0	3.7820 Hogging	0.0034711	12.280	0.085669	462.87	-	2 (Slight)
	Min Radius of Curvature (Sagging)	A4		1	0.0	3.8980 Sagging	0.0010218	13.351	0.022287	-	1274.50	0 (Negligible)
B	Max Slope	B7		1	0.0	1.1000 Hogging	445.74E-6	1.5877	0.037668	9715.6	-	0 (Negligible)
	Max Settlement	B8		1	0.0	6.8288 Sagging	41.643E-6	1.6134	0.0010872	-	96000.0	0 (Negligible)
	Max Tensile Strain	B5		4	2.1656	6.3640 Hogging	322.53E-6	1.1153	0.039267	10445.	-	0 (Negligible)
	Min Radius of Curvature (Hogging)	B7		1	0.0	1.1000 Hogging	445.74E-6	1.5877	0.037668	9715.6	-	0 (Negligible)
C	Min Radius of Curvature (Sagging)	B8		3	8.3239	10.614 Sagging	59.530E-6	1.4925	0.0032621	-	26353.0	0 (Negligible)
	Max Slope	C11		1	0.0	4.9410 Hogging	0.0016050	11.355	0.073205	1914.1	-	1 (Very Slight)
	Max Settlement	C12		1	0.0	11.065 Sagging	604.62E-6	12.103	0.016677	-	6710.60	0 (Negligible)
D	Max Tensile Strain	C11		1	0.0	4.9410 Hogging	0.0016050	11.355	0.073205	1914.1	-	1 (Very Slight)
	Min Radius of Curvature (Hogging)	C11		1	0.0	4.9410 Hogging	0.0016050	11.355	0.073205	1914.1	-	1 (Very Slight)
	Min Radius of Curvature (Sagging)	C2		2	0.22832	3.4150 Sagging	554.16E-6	6.0863	0.0063906	-	4031.20	0 (Negligible)
	Max Slope	D7		1	0.0	4.5630 Hogging	579.47E-6	2.4774	0.045793	9658.1	-	0 (Negligible)
	Max Settlement	D8		1	0.0	11.012 Sagging	199.44E-6	2.4777	0.0011735	-	11459.0	0 (Negligible)
D	Max Tensile Strain	D7		1	0.0	4.5630 Hogging	579.47E-6	2.4774	0.045793	9658.1	-	0 (Negligible)
	Min Radius of Curvature (Hogging)	D5		1	0.0	2.8230 Hogging	316.71E-6	0.51319	0.011167	3951.5	-	0 (Negligible)
	Min Radius of Curvature (Sagging)	D8		1	0.0	11.012 Sagging	199.44E-6	2.4777	0.0011735	-	11459.0	0 (Negligible)

Xdisp Input and Output

Model: Long-term scheme -
scaled



1_8StCuthber_LongTermScheme_SCALED-0.85

Problem Type

Problem Type : Tunnelling and Embedded Wall Excavations

Displacement Data

Table with columns: Type, Name, Direction of extrusion, Point/Line/Line for extrusion (First point X, Y, Z, Second point X, Y, Z), No. of intervals across extrusion/line, Extrusion depth, No. of intervals along extrusion, Calculate, Surface type for tunnels. Rows include Line A1 through Line D8 and Grid 1.

Vertical Ground Movement Curves (Excavations)

Curve Name: No vertical ground movement
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Settlement / wall depth or max. excavation depth (z)(%)]
Curve Fitting Method: Polynomial
x Order: 1
y Order: 0
Polynomial: z = 0.0x + 0.0
Coeff. of: -2147483648.E+2147483647
Determination:

Curve Name: Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(b))
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Settlement / wall depth or max. excavation depth (z)(%)]
Curve Fitting Method: Polynomial
x Order: 1
y Order: 0
Polynomial: z = -2.0E-2x + 4.0E-2
Coeff. of: 1.0
Determination:

Curve Name: Installation of planar diaphragm wall in stiff clay (CIRIA 580 Fig. 2.9(b))
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Settlement / wall depth or max. excavation depth (z)(%)]
Curve Fitting Method: Polynomial
x Order: 4
y Order: 0
Polynomial: z = -1.2355E-2x^4 + 3.4814E-2x^3 - 2.8885E-3x^2 - 6.5618E-2x + 4.9987E-2
Coeff. of: 1.0000
Determination:

Curve Name: ExcavHighStiffClay-0.85
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Settlement / wall depth or max. excavation depth (z)(%)]
Curve Fitting Method: Polynomial
x Order: 4
y Order: 0
Polynomial: z = -2.2486E-3x^4 + 2.4220E-2x^3 - 8.5430E-2x^2 + 8.9838E-2x + 3.3142E-2
Coeff. of: 9.9991E-1
Determination:

Horizontal Ground Movement Curves (Excavations)



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Type Name Direction of extrusion Point/Line/Line for extrusion No. of intervals across extrusion/line Extrusion depth No. of intervals along extrusion Calculate Surface type for tunnels

Curve Name: No horizontal ground movement
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Horizontal movement / wall depth or max. excavation depth (z)](%)
 [0.000,0.000,0.000][1.000,0.000,0.000][0.000,1.000,0.000][1.000,1.000,0.000]
Curve Fitting Method: Polynomial
x Order: 0
y Order: 0
Polynomial: z = 0.0
Coeff. of Determination: -2147483648.E+2147483647

Curve Name: Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(a))
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Horizontal movement / wall depth or max. excavation depth (z)](%)
 [0.000,0.000,0.041][0.050,0.000,0.039][0.100,0.000,0.036][0.150,0.000,0.034][0.200,0.000,0.032][0.250,0.000,0.030][0.300,0.000,0.029][0.350,0.000,0.027][0.400,0.000,0.025][0.450,0.000,0.023][0.500,0.000,0.022][0.550,0.000,0.020][0.600,0.000,0.019][0.650,0.000,0.018][0.700,0.000,0.016][0.750,0.000,0.015][0.800,0.000,0.014][0.850,0.000,0.013][0.900,0.000,0.012][0.950,0.000,0.010][1.000,0.000,0.009][1.050,0.000,0.008][1.100,0.000,0.007][1.150,0.000,0.006][1.200,0.000,0.005][1.250,0.000,0.004][1.300,0.000,0.004][1.350,0.000,0.003][1.400,0.000,0.002][1.450,0.000,0.001][1.500,0.000,0.000]
Curve Fitting Method: Polynomial
x Order: 3
y Order: 0
Polynomial: z = -4.2486E-3x³ + 1.9096E-2x² - 4.6221E-2x + 4.0729E-2
Coeff. of Determination: 1.0000

Curve Name: Installation of planar diaphragm wall in stiff clay (CIRIA 580 Fig. 2.9(a))
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Horizontal movement / wall depth or max. excavation depth (z)](%)
 [0.000,0.000,0.050][1.500,0.000,0.000]
Curve Fitting Method: Polynomial
x Order: 1
y Order: 0
Polynomial: z = -3.33E-2x + 5.00E-2
Coeff. of Determination: 1.00

Curve Name: ExcavHighStiffClay-0.85
Coordinates: [Distance from wall / wall depth or max. excavation depth (x), Depth / wall depth or max. excavation depth (y), Horizontal movement / wall depth or max. excavation depth (z)](%)
 [0.000,0.000,0.128][4.000,0.000,0.000]
Curve Fitting Method: Linear

Polygonal Excavations

Excavation Name: InstallContig
Surface level [m]: 0.0
Contribution: Positive
Enabled: Yes

Corner	x	y	Base Level	Stiffened	Previous Side	Next Side
	[m]	[m]	[m]	d	pl p2*	d pl p2*
1	36.252	28.072	-8.0000	No	- -	- -
2	48.423	37.225	-8.0000	No	- -	- -
3	55.142	28.291	-8.0000	No	- -	- -
4	42.970	19.138	-8.0000	No	- -	- -

Side	Corner 1		Corner 2		Ground Movement Curve	
	x	y	x	y	Vertical	Horizontal
1	36.252	28.072	48.423	37.225	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(b))	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(a))
2	48.423	37.225	55.142	28.291	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(b))	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(a))
3	55.142	28.291	42.970	19.138	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(b))	Installation of contiguous bored pile wall in stiff clay (CIRIA 580 Fig. 2.8(a))
4	42.970	19.138	36.252	28.072	No vertical ground movement	No horizontal ground movement

Excavation Name: Excavate
Surface level [m]: 0.0
Contribution: Positive
Enabled: Yes

Corner	x	y	Base Level	Stiffened	Previous Side	Next Side
	[m]	[m]	[m]	d	pl p2*	d pl p2*
1	36.252	28.072	-4.0000	No	- -	- -
2	48.423	37.225	-4.0000	No	- -	- -
3	55.142	28.291	-4.0000	No	- -	- -
4	42.970	19.138	-4.0000	No	- -	- -

Side	Corner 1		Corner 2		Ground Movement Curve	
	x	y	x	y	Vertical	Horizontal
1	36.252	28.072	48.423	37.225	ExcavHighStiffClay-0.85	ExcavHighStiffClay-0.85
2	48.423	37.225	55.142	28.291	ExcavHighStiffClay-0.85	ExcavHighStiffClay-0.85
3	55.142	28.291	42.970	19.138	ExcavHighStiffClay-0.85	ExcavHighStiffClay-0.85
4	42.970	19.138	36.252	28.072	ExcavHighStiffClay-0.85	ExcavHighStiffClay-0.85

Excavation Name: IntallUnderpin
Surface level [m]: 0.0
Contribution: Positive
Enabled: Yes

Corner	x	y	Base Level	Stiffened	Previous Side	Next Side
	[m]	[m]	[m]	d	pl p2*	d pl p2*
1	36.252	28.072	-4.0000	No	- -	- -
2	48.423	37.225	-4.0000	No	- -	- -
3	55.142	28.291	-4.0000	No	- -	- -
4	42.970	19.138	-4.0000	No	- -	- -

Side	Corner 1		Corner 2		Ground Movement Curve	
	x	y	x	y	Vertical	Horizontal
1	36.252	28.072	48.423	37.225	No vertical ground movement	No horizontal ground movement
2	48.423	37.225	55.142	28.291	No vertical ground movement	No horizontal ground movement
3	55.142	28.291	42.970	19.138	No vertical ground movement	No horizontal ground movement
4	42.970	19.138	36.252	28.072	Installation of planar diaphragm wall in stiff clay (CIRIA 580 Fig. 2.9(b))	Installation of planar diaphragm wall in stiff clay (CIRIA 580 Fig. 2.9(a))

Damage Category Strains

Name	0 (Negligible)	1 (Very Slight)	2 (Slight)	3 (Moderate)
Burland Strain Limits	0.0	500.00E-6	750.00E-6	0.0015000



1_8StCuthber_LongTermScheme_SCALED-0.85

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Name 0 (Negligible) 1 (Very Slight) 2 (Slight) 3 (Moderate) 4 (Severe)
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1 (Very Slight) 2 (Slight) 3 (Moderate) 4 (Severe)

Specific Structures - Geometry

Table with columns: Structure Name, Sub-Structure Name, Displacement Line, Start Distance Along Line, End Distance Along Line, Vertical Offsets from Line for Vertical Movement Calculations, Vertical Displacement Limit Sensitivity, Damage Category, Strains, Poisson's Ratio, E/G. Rows A1-A20, B1-B20, C1-C12, D1-D8.

Specific Structures - Bending Parameters

Table with columns: Structure Name, Sub-Structure Name, Height, Default Properties, Hogging (2nd Moment of Area, Distance of Bending Strain from N.A.), Sagging (2nd Moment of Area, Distance of Bending Strain from N.A.). Rows A1-A20, B1-B20, C1-C12, D1-D8.

Building Segment Combinations

Table with columns: Structure Name, Sub-Structure Name, Vertical Offset from Line for Vertical Movement Calculations, Segment Start Length, Curvature, Combined Segment. Note: No structures have segments combined.

Utility Strain Calculation Options

Neglect beneficial contribution of axial strains : No

Warnings

1 Multiple excavations have been specified. The displacements resulting from these excavations are calculated by summing the displacements resulting from each



Table with columns: Type/No., Name, Dist., Coordinates (x, y, z), Displacements (x, y, z), Horizontal displacement, Horizontal displacement, Angle of Line to x Axis. Contains data for D7 and D8 structures.

Specific Building Damage Results - Horizontal Displacements

Structure: A | Sub-structure: A1

Table for Structure A | Sub-structure: A1 showing Dist., Coordinates, Displacements, Horizontal displacement, Horizontal displacement.

Structure: A | Sub-structure: A2

Table for Structure A | Sub-structure: A2 showing Dist., Coordinates, Displacements, Horizontal displacement, Horizontal displacement.

Structure: A | Sub-structure: A3

Table for Structure A | Sub-structure: A3 showing Dist., Coordinates, Displacements, Horizontal displacement, Horizontal displacement.

Structure: A | Sub-structure: A4

Table for Structure A | Sub-structure: A4 showing Dist., Coordinates, Displacements, Horizontal displacement, Horizontal displacement.

Structure: A | Sub-structure: A5

Table for Structure A | Sub-structure: A5 showing Dist., Coordinates, Displacements, Horizontal displacement, Horizontal displacement.



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Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
6.9909	34.28213	17.85950	0.00000	2.1114	1.5878	-2.6411
7.4902	33.89006	17.55025	0.00000	1.9842	1.4922	-2.4820
7.9896	33.49800	17.24100	0.00000	1.8570	1.3965	-2.3229

Structure: A | Sub-structure: A6

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	33.49800	17.24100	0.00000	1.8570	1.3965	-0.045679
0.48914	33.19638	17.62608	0.00000	1.8546	1.3947	-0.045619
0.97828	32.89477	18.01115	0.00000	1.8521	1.3928	-0.045559
1.4674	32.59315	18.39623	0.00000	1.8497	1.3910	-0.045499
1.9566	32.29154	18.78131	0.00000	1.8472	1.3891	-0.045438
2.4457	31.98992	19.16638	0.00000	1.8448	1.3873	-0.045378
2.9348	31.68831	19.55146	0.00000	1.8423	1.3855	-0.045318
3.4240	31.38669	19.93654	0.00000	1.8399	1.3836	-0.045258
3.9131	31.08508	20.32162	0.00000	1.8374	1.3818	-0.045197
4.4022	30.78346	20.70669	0.00000	1.8350	1.3799	-0.045137
4.8914	30.48185	21.09177	0.00000	1.8325	1.3781	-0.045077
5.3805	30.18023	21.47685	0.00000	1.8301	1.3763	-0.045017
5.8697	29.87862	21.86192	0.00000	1.8276	1.3744	-0.044956
6.3588	29.57700	22.24700	0.00000	1.8252	1.3726	-0.044896

Structure: B | Sub-structure: B1

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	20.51600	5.45800	0.00000	0.0	0.0	0.0
0.48720	20.90600	5.75000	0.00000	0.0	0.0	0.0
0.97440	21.29600	6.04200	0.00000	0.0	0.0	0.0
1.4616	21.68600	6.33400	0.00000	0.0	0.0	0.0
1.9488	22.07600	6.62600	0.00000	0.0	0.0	0.0
2.4360	22.46600	6.91800	0.00000	0.0	0.0	0.0
2.9232	22.85600	7.21000	0.00000	0.0	0.0	0.0
3.4104	23.24600	7.50200	0.00000	0.0	0.0	0.0
3.8976	23.63600	7.79400	0.00000	0.0	0.0	0.0

Structure: B | Sub-structure: B2

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	23.63600	7.79400	0.00000	0.0	0.0	0.0
0.46125	23.35400	8.15900	0.00000	0.0	0.0	0.0
0.92249	23.07200	8.52400	0.00000	0.0	0.0	0.0

Structure: B | Sub-structure: B3

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	23.07200	8.52400	0.00000	0.0	0.0	0.0
0.46917	23.44545	8.80800	0.00000	0.0	0.0	0.0
0.93835	23.81891	9.09200	0.00000	0.0	0.0	0.0
1.4075	24.19236	9.37600	0.00000	0.0	0.0	0.0
1.8767	24.56582	9.66000	0.00000	0.0	0.0	0.0
2.3459	24.93927	9.94400	0.00000	0.0	0.0	0.0
2.8150	25.31273	10.22800	0.00000	0.0	0.0	0.0
3.2842	25.68618	10.51200	0.00000	0.0	0.0	0.0
3.7534	26.05964	10.79600	0.00000	0.0	0.0	0.0
4.2226	26.43309	11.08000	0.00000	0.0	0.0	0.0
4.6917	26.80655	11.36400	0.00000	0.0	0.0	0.0
5.1609	27.18000	11.64800	0.00000	0.0	0.0	0.0

Structure: B | Sub-structure: B4

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	27.18000	11.64800	0.00000	0.0	0.0	0.0
0.36061	27.39833	11.36100	0.00000	0.0	0.0	0.0
0.72122	27.61667	11.07400	0.00000	0.0	0.0	0.0
1.0818	27.83500	10.78700	0.00000	0.0	0.0	0.0

Structure: B | Sub-structure: B5

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	27.83500	10.78700	0.00000	0.0	0.0	0.0
0.48959	28.22792	11.07908	0.00000	0.0	0.0	0.0
0.97918	28.62085	11.37115	0.00000	0.0	0.0	0.0
1.4688	29.01377	11.66323	0.00000	0.089982	0.067668	0.112558
1.9584	29.40669	11.95531	0.00000	0.21470	0.16146	0.26864
2.4479	29.79962	12.24738	0.00000	0.33943	0.25525	0.42469
2.9375	30.19254	12.53946	0.00000	0.46415	0.34905	0.58074
3.4271	30.58546	12.83154	0.00000	0.58887	0.44284	0.73679
3.9167	30.97838	13.12362	0.00000	0.71359	0.53663	0.89284
4.4063	31.37131	13.41569	0.00000	0.83832	0.63043	1.0489
4.8959	31.76423	13.70777	0.00000	0.96304	0.72422	1.2049
5.3855	32.15715	13.99985	0.00000	1.0878	0.81801	1.3610
5.8751	32.55008	14.29192	0.00000	1.2125	0.91181	1.5170
6.3647	32.94300	14.58400	0.00000	1.3372	1.0056	1.6731

Structure: B | Sub-structure: B6

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	32.94300	14.58400	0.00000	1.3372	1.0056	0.0081061
0.35614	32.73033	14.86967	0.00000	1.3376	1.0059	0.0081088
0.71227	32.51767	15.15533	0.00000	1.3381	1.0063	0.0081115
1.0684	32.30500	15.44100	0.00000	1.3385	1.0066	0.0081141

Structure: B | Sub-structure: B7

Dist.	Coordinates			Displacements		
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x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line	
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	
0.0	32.30500	15.44100	0.00000	1.3385	1.0066	1.6746	0.023764
0.36690	32.60132	15.65733	0.00000	1.4320	1.0769	1.7915	0.025423
0.73379	32.89767	15.87367	0.00000	1.5254	1.1472	1.9085	0.027082
1.1007	33.19400	16.09000	0.00000	1.6189	1.2174	2.0254	0.028741

Structure: B | Sub-structure: B8

Dist.	Coordinates			Displacements			
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line	
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	33.19400	16.09000	0.00000	1.6189	1.2174	586.50E-6	-2.0256
0.48246	32.90414	16.47568	0.00000	1.6189	1.2175	586.52E-6	-2.0256
0.96493	32.61427	16.86136	0.00000	1.6190	1.2175	586.53E-6	-2.0257
1.4474	32.32441	17.24705	0.00000	1.6190	1.2175	586.54E-6	-2.0257
1.9299	32.03455	17.63273	0.00000	1.6190	1.2175	586.56E-6	-2.0258
2.4123	31.74468	18.01841	0.00000	1.6191	1.2176	586.57E-6	-2.0258
2.8948	31.45482	18.40409	0.00000	1.6191	1.2176	586.58E-6	-2.0259
3.3772	31.16495	18.78977	0.00000	1.6192	1.2176	586.59E-6	-2.0259
3.8597	30.87509	19.17545	0.00000	1.6192	1.2177	586.61E-6	-2.0259
4.3422	30.58523	19.56114	0.00000	1.6192	1.2177	586.62E-6	-2.0260
4.8246	30.29536	19.94682	0.00000	1.6193	1.2177	586.63E-6	-2.0260
5.3071	30.00550	20.33250	0.00000	1.6193	1.2177	586.65E-6	-2.0261
5.7896	29.71564	20.71818	0.00000	1.6193	1.2178	586.66E-6	-2.0261
6.2720	29.42577	21.10386	0.00000	1.6194	1.2178	586.67E-6	-2.0262
6.7545	29.13591	21.48955	0.00000	1.6194	1.2178	586.68E-6	-2.0262
7.2370	28.84605	21.87523	0.00000	1.6194	1.2178	586.70E-6	-2.0263
7.7194	28.55618	22.26091	0.00000	1.6195	1.2179	586.71E-6	-2.0263
8.2019	28.26632	22.64659	0.00000	1.6122	1.1188	-0.074229	-1.9610
8.6843	27.97645	23.03227	0.00000	1.5985	1.0130	-0.15064	-1.8864
9.1668	27.68659	23.41795	0.00000	1.5786	0.90614	-0.22407	-1.8064
9.6493	27.39673	23.80364	0.00000	1.5525	0.80016	-0.29312	-1.7218
10.1317	27.10686	24.18932	0.00000	1.5203	0.69669	-0.35648	-1.6339
10.614	26.81700	24.57500	0.00000	1.4821	0.59723	-0.41303	-1.5436

Structure: B | Sub-structure: B9

Dist.	Coordinates			Displacements			
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line	
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	26.81700	24.57500	0.00000	1.4821	0.59723	-1.5362	0.43996
0.43274	26.47567	24.30900	0.00000	1.3748	0.58452	-1.4437	0.38401
0.86548	26.13433	24.04300	0.00000	1.2673	0.56617	-1.3476	0.33243
1.2982	25.79300	23.77700	0.00000	1.1597	0.54281	-1.2484	0.28472
1.7310	25.45167	23.51100	0.00000	1.0520	0.51500	-1.1464	0.24044
2.1637	25.11033	23.24500	0.00000	0.94623	0.48044	-1.0417	0.20268
2.5964	24.76900	22.97900	0.00000	0.84455	0.43664	-0.93456	0.17473

Structure: B | Sub-structure: B10

Dist.	Coordinates			Displacements			
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line	
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	24.76900	22.97900	0.00000	0.84455	0.43664	-0.15559	0.93793
0.43530	25.02950	22.69250	0.00000	0.69287	0.48213	-0.13519	0.98664
0.87060	25.29000	22.28150	0.00000	0.89486	0.52766	-0.11277	1.0327
1.3059	25.55050	21.93275	0.00000	0.91488	0.57273	-0.088644	1.0757
1.7412	25.81100	21.58400	0.00000	0.93132	0.61678	-0.063188	1.1153

Structure: B | Sub-structure: B11

Dist.	Coordinates			Displacements			
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line	
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	25.81100	21.58400	0.00000	0.93132	0.61678	-1.1138	0.084997
0.47915	25.43280	21.28980	0.00000	0.81211	0.54111	-0.97325	0.071532
0.95831	25.05450	20.99560	0.00000	0.69287	0.46412	-0.83171	0.058968
1.4375	24.67640	20.70140	0.00000	0.57304	0.38595	-0.68928	0.047212
1.9166	24.29820	20.40720	0.00000	0.45322	0.30672	-0.54606	0.036182
2.3958	23.92000	20.11300	0.00000	0.33323	0.22653	-0.40211	0.025807

Structure: B | Sub-structure: B12

Dist.	Coordinates			Displacements			
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line	
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	23.92000	20.11300	0.00000	0.33323	0.22653	0.025778	0.40211
0.47317	24.21050	19.73950	0.00000	0.34354	0.24475	0.017719	0.42144
0.94635	24.50100	19.36600	0.00000	0.35007	0.26076	0.0090915	0.43642

Structure: B | Sub-structure: B13

Dist.	Coordinates			Displacements			
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line	
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	24.50100	19.36600	0.00000	0.35007	0.26076	-0.43647	0.0062170
0.45943	24.13650	19.08630	0.00000	0.23220	0.17982	-0.29082	0.0040467
0.91886	23.77200	18.80667	0.00000	0.11630	0.086747	-0.14508	0.0019738
1.3783	23.40750	18.52700	0.00000	0.0	0.0	0.0	0.0
1.8377	23.04300	18.24733	0.00000	0.0	0.0	0.0	0.0
2.2971	22.67850	17.96767	0.00000	0.0	0.0	0.0	0.0
2.7566	22.31400	17.68800	0.00000	0.0	0.0	0.0	0.0

Structure: B | Sub-structure: B14

Dist.	Coordinates			Displacements			
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line	
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]	[mm]
0.0	22.31400	17.68800	0.00000	0.0	0.0	0.0	0.0
0.44350	22.04420	18.04000	0.00000	0.0	0.0	0.0	0.0
0.88701	21.77440	18.39200	0.00000	0.0	0.0	0.0	0.0
1.3305	21.50460	18.74400	0.00000	0.0	0.0	0.0	0.0
1.7740	21.23480	19.09600	0.00000	0.0	0.0	0.0	0.0
2.2175	20.96500	19.44800	0.00000	0.0	0.0	0.0	0.0



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Dist.	Coordinates			Displacements		
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
Structure: B Sub-structure: B15						
Dist.	Coordinates			Displacements		
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	20.96500	19.44800	0.00000	0.0	0.0	0.0
0.49138	20.57211	19.15289	0.00000	0.0	0.0	0.0
0.98276	20.17922	18.85778	0.00000	0.0	0.0	0.0
1.4741	19.78633	18.56267	0.00000	0.0	0.0	0.0
1.9655	19.39344	18.26756	0.00000	0.0	0.0	0.0
2.4569	19.00056	17.97244	0.00000	0.0	0.0	0.0
2.9483	18.60767	17.67733	0.00000	0.0	0.0	0.0
3.4396	18.21478	17.38222	0.00000	0.0	0.0	0.0
3.9310	17.82189	17.08711	0.00000	0.0	0.0	0.0
4.4224	17.42900	16.79200	0.00000	0.0	0.0	0.0
Structure: B Sub-structure: B16						
Dist.	Coordinates			Displacements		
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	17.42900	16.79200	0.00000	0.0	0.0	0.0
0.49346	17.71689	16.39122	0.00000	0.0	0.0	0.0
0.98692	18.00478	15.99044	0.00000	0.0	0.0	0.0
1.4804	18.29267	15.58967	0.00000	0.0	0.0	0.0
1.9738	18.58056	15.18889	0.00000	0.0	0.0	0.0
2.4672	18.86844	14.78811	0.00000	0.0	0.0	0.0
2.9608	19.15633	14.38733	0.00000	0.0	0.0	0.0
3.4542	19.44422	13.98656	0.00000	0.0	0.0	0.0
3.9477	19.73211	13.58578	0.00000	0.0	0.0	0.0
4.4411	20.02000	13.18500	0.00000	0.0	0.0	0.0
Structure: B Sub-structure: B17						
Dist.	Coordinates			Displacements		
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	20.02000	13.18500	0.00000	0.0	0.0	0.0
0.48838	19.64200	12.78575	0.00000	0.0	0.0	0.0
0.97677	19.26400	12.38650	0.00000	0.0	0.0	0.0
1.4652	18.88600	11.98725	0.00000	0.0	0.0	0.0
1.9535	18.50800	11.58800	0.00000	0.0	0.0	0.0
Structure: B Sub-structure: B18						
Dist.	Coordinates			Displacements		
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	18.50800	11.58800	0.00000	0.0	0.0	0.0
0.43983	18.77567	11.59900	0.00000	0.0	0.0	0.0
0.87965	19.04333	11.61000	0.00000	0.0	0.0	0.0
1.3195	19.31100	11.62100	0.00000	0.0	0.0	0.0
Structure: B Sub-structure: B19						
Dist.	Coordinates			Displacements		
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	19.31100	10.90100	0.00000	0.0	0.0	0.0
0.47300	18.93320	10.61640	0.00000	0.0	0.0	0.0
0.94600	18.55540	10.33180	0.00000	0.0	0.0	0.0
1.4190	18.17760	10.04720	0.00000	0.0	0.0	0.0
1.8920	17.79980	9.76260	0.00000	0.0	0.0	0.0
2.3650	17.42200	9.47800	0.00000	0.0	0.0	0.0
Structure: B Sub-structure: B20						
Dist.	Coordinates			Displacements		
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	17.42200	9.47800	0.00000	0.0	0.0	0.0
0.46116	17.70327	9.11255	0.00000	0.0	0.0	0.0
0.92233	17.98455	8.74709	0.00000	0.0	0.0	0.0
1.3835	18.26582	8.38164	0.00000	0.0	0.0	0.0
1.8447	18.54709	8.01618	0.00000	0.0	0.0	0.0
2.3058	18.82836	7.65073	0.00000	0.0	0.0	0.0
2.7670	19.10964	7.28527	0.00000	0.0	0.0	0.0
3.2281	19.39091	6.91982	0.00000	0.0	0.0	0.0
3.6893	19.67218	6.55436	0.00000	0.0	0.0	0.0
4.1505	19.95345	6.18891	0.00000	0.0	0.0	0.0
4.6116	20.23472	5.82345	0.00000	0.0	0.0	0.0
5.0728	20.51600	5.45800	0.00000	0.0	0.0	0.0
Structure: C Sub-structure: C1						
Dist.	Coordinates			Displacements		
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	36.28600	29.95000	0.00000	4.3589	-5.7962	0.11954
0.45629	36.00578	30.31011	0.00000	4.1655	-5.5390	0.11423
0.91259	35.72556	30.67022	0.00000	3.9771	-5.2885	0.10907
1.3689	35.44533	31.03033	0.00000	3.7935	-5.0444	0.10403
1.8252	35.16511	31.39044	0.00000	3.6145	-4.8063	0.099122
2.2815	34.88489	31.75056	0.00000	3.4397	-4.5740	0.094331
2.7378	34.60467	32.11067	0.00000	3.2691	-4.3471	0.089652
3.1941	34.32444	32.47078	0.00000	3.1024	-4.1254	0.085079
3.6504	34.04422	32.83089	0.00000	2.9393	-3.9085	0.080606
4.1066	33.76400	33.19100	0.00000	2.7796	-3.6961	0.076226
Structure: C Sub-structure: C2						
Dist.	Coordinates			Displacements		
x	y	z	x	y	Horizontal displacement along the Line	Horizontal displacement perpendicular to Line
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	33.76400	33.19100	0.00000	2.7796	-3.6961	0.076226
0.48792	33.36471	32.91057	0.00000	2.7741	-3.6888	0.076226
0.97585	32.96543	32.63014	0.00000	2.7686	-3.6815	0.076226



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Dist.	Coordinates			Displacements		
	x	y	z	x	y	Horizontal displacement along the perpendicular
1.4638	32.56614	32.34971	0.00000	2.7577	-3.4268	-0.28720
1.9517	32.16686	32.06929	0.00000	2.7313	-3.0909	-0.45862
2.4396	31.76757	31.78886	0.00000	2.6889	-2.7576	-0.61552
2.9275	31.36829	31.50843	0.00000	2.6304	-2.4356	-0.75272
3.4155	30.96900	31.22800	0.00000	2.5664	-2.1247	-0.87907

Structure: C | Sub-structure: C3

Dist.	Coordinates			Displacements		
	x	y	z	x	y	Horizontal displacement along the perpendicular
0.0	30.96900	31.22800	0.00000	2.5664	-2.1247	-3.2138
0.48944	30.68767	31.52850	0.00000	2.4254	-2.0919	-3.1059
0.97887	30.40633	32.02900	0.00000	2.2833	-2.0374	-2.9797
1.4683	30.12500	32.42950	0.00000	2.1409	-1.9655	-2.8389
1.9577	29.84367	32.83000	0.00000	1.9983	-1.8794	-2.6865
2.4472	29.56233	33.23050	0.00000	1.8559	-1.7817	-2.5247
2.9366	29.28100	33.63100	0.00000	1.7137	-1.6742	-2.3551

Structure: C | Sub-structure: C4

Dist.	Coordinates			Displacements		
	x	y	z	x	y	Horizontal displacement along the perpendicular
0.0	32.24800	36.92900	0.00000	1.5217	-2.0234	-1.2000
0.48464	29.66840	33.92220	0.00000	1.7429	-1.8332	-2.29171
0.96928	30.05580	34.21340	0.00000	1.7647	-1.9904	-2.1468
1.4539	30.44320	34.50460	0.00000	1.7787	-2.1433	-2.13401
1.9386	30.83060	34.79580	0.00000	1.7847	-2.2893	-2.051043
2.4232	31.21800	35.08700	0.00000	1.7842	-2.3726	-1.9662

Structure: C | Sub-structure: C5

Dist.	Coordinates			Displacements		
	x	y	z	x	y	Horizontal displacement along the perpendicular
0.0	31.21800	35.08700	0.00000	1.7842	-2.3726	-1.2000
0.42208	31.42400	35.45540	0.00000	1.7313	-2.3022	-1.1644
0.84417	31.63000	35.82380	0.00000	1.6786	-2.2321	-1.1290
1.2663	31.83600	36.19220	0.00000	1.6261	-2.1623	-1.0936
1.6883	32.04200	36.56060	0.00000	1.5738	-2.0927	-1.0585
2.1104	32.24800	36.92900	0.00000	1.5217	-2.0234	-1.0234

Structure: C | Sub-structure: C6

Dist.	Coordinates			Displacements		
	x	y	z	x	y	Horizontal displacement along the perpendicular
0.0	32.24800	36.92900	0.00000	1.5217	-2.0234	-0.26436
0.46414	32.42385	37.20408	0.00000	1.5231	-2.0254	0.026462
0.92829	32.95639	37.47915	0.00000	1.5246	-2.0274	0.026488
1.3924	33.36954	37.75423	0.00000	1.5261	-2.0293	0.026513
1.8566	33.74338	38.02931	0.00000	1.5276	-2.0313	0.026539
2.3207	34.11723	38.30438	0.00000	1.5291	-2.0333	0.026565
2.7849	34.49108	38.57946	0.00000	1.5305	-2.0352	0.026590
3.2490	34.86492	38.85454	0.00000	1.5320	-2.0372	0.026616
3.7131	35.23877	39.12962	0.00000	1.5335	-2.0392	0.026642
4.1773	35.61262	39.40469	0.00000	1.5350	-2.0411	0.026668
4.6414	35.98646	39.67977	0.00000	1.5365	-2.0431	0.026693
5.1056	36.36031	39.95485	0.00000	1.5379	-2.0451	0.026719
5.5697	36.73415	40.22992	0.00000	1.5394	-2.0470	0.026745
6.0339	37.10800	40.50500	0.00000	1.5409	-2.0490	0.026770

Structure: C | Sub-structure: C7

Dist.	Coordinates			Displacements		
	x	y	z	x	y	Horizontal displacement along the perpendicular
0.0	37.10800	40.50500	0.00000	1.5409	-2.0490	2.5636
0.44342	37.37100	40.14800	0.00000	1.6769	-2.2298	2.7899

Structure: C | Sub-structure: C8

Dist.	Coordinates			Displacements		
	x	y	z	x	y	Horizontal displacement along the perpendicular
0.0	37.37100	40.14800	0.00000	1.6769	-2.2298	0.028750
0.49716	37.77140	40.44270	0.00000	1.6785	-2.2319	0.028777
0.99432	38.17180	40.73740	0.00000	1.6801	-2.2341	0.028805
1.4915	38.57220	41.03210	0.00000	1.6816	-2.2362	0.028832
1.9886	38.97260	41.32680	0.00000	1.6832	-2.2383	0.028859
2.4858	39.37300	41.62150	0.00000	1.6848	-2.2404	0.028886
2.9830	39.77340	41.91620	0.00000	1.6864	-2.2425	0.028913
3.4801	40.17380	42.21090	0.00000	1.6880	-2.2446	0.028940
3.9773	40.57420	42.50560	0.00000	1.6895	-2.2467	0.028967
4.4744	40.97460	42.80030	0.00000	1.6911	-2.2488	0.028994
4.9716	41.37500	43.09500	0.00000	1.6927	-2.2509	0.029021

Structure: C | Sub-structure: C9

Dist.	Coordinates			Displacements		
	x	y	z	x	y	Horizontal displacement along the perpendicular
0.0	41.37500	43.09500	0.00000	1.6927	-2.2509	2.8162
0.43642	41.63367	42.74350	0.00000	1.8281	-2.4309	3.0414
0.87284	41.89233	42.39200	0.00000	1.9655	-2.6131	3.2694
1.3093	42.15100	42.04050	0.00000	2.1039	-2.7977	3.5003
1.7457	42.40967	41.68900	0.00000	2.2447	-2.9849	3.7345
2.1821	42.66833	41.33750	0.00000	2.3877	-3.1750	3.9724
2.6185	42.92700	40.98600	0.00000	2.5331	-3.3683	4.2143

Structure: C | Sub-structure: C10

Dist.	Coordinates			Displacements		
	x	y	z	x	y	Horizontal displacement along the perpendicular
0.0	41.37500	43.09500	0.00000	1.6927	-2.2509	2.8162
0.43642	41.63367	42.74350	0.00000	1.8281	-2.4309	3.0414
0.87284	41.89233	42.39200	0.00000	1.9655	-2.6131	3.2694
1.3093	42.15100	42.04050	0.00000	2.1039	-2.7977	3.5003
1.7457	42.40967	41.68900	0.00000	2.2447	-2.9849	3.7345
2.1821	42.66833	41.33750	0.00000	2.3877	-3.1750	3.9724
2.6185	42.92700	40.98600	0.00000	2.5331	-3.3683	4.2143



A-SQUARED STUDIO

1_8StCuthber_LongTermScheme_SCALED-0.85

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Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
					Horizontal displacement along the line	Horizontal displacement perpendicular to line
0.0	42.92700	40.98600	0.00000	2.5331	-3.3683	-0.043335
0.41162	42.59550	40.74200	0.00000	2.5316	-3.3664	-0.043311
0.82323	42.26400	40.49800	0.00000	2.5302	-3.3645	-0.043287

Structure: C | Sub-structure: C11

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	42.26400	40.49800	0.00000	2.5302	-3.3645	4.2095
0.49410	42.55680	40.10000	0.00000	2.6979	-3.5875	4.4885
0.98820	42.84960	39.70200	0.00000	2.8691	-3.8152	4.7734
1.4823	43.14240	39.30400	0.00000	3.0443	-4.0481	5.0648
1.9764	43.43520	38.90600	0.00000	3.2236	-4.2866	5.3631
2.4705	43.72800	38.50800	0.00000	3.4074	-4.5310	5.6689
2.9646	44.02080	38.11000	0.00000	3.5959	-4.7817	5.9826
3.4587	44.31360	37.71200	0.00000	3.7895	-5.0391	6.3047
3.9528	44.60640	37.31400	0.00000	3.9885	-5.3036	6.6356
4.4469	44.89920	36.91600	0.00000	4.1930	-5.5756	6.9759
4.9410	45.19200	36.51800	0.00000	4.4035	-5.8555	7.3261

Structure: C | Sub-structure: C12

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	45.19200	36.51800	0.00000	4.4035	-5.8555	-0.068534
0.48113	44.80478	36.23243	0.00000	4.4015	-5.8529	-0.068504
0.96226	44.41757	35.94687	0.00000	4.3996	-5.8503	-0.068473
1.4434	44.03035	35.66130	0.00000	4.3976	-5.8477	-0.068443
1.9245	43.64313	35.37574	0.00000	4.3957	-5.8451	-0.068413
2.4056	43.25591	35.09017	0.00000	4.3937	-5.8426	-0.068383
2.8868	42.86870	34.80461	0.00000	4.3918	-5.8400	-0.068353
3.3679	42.48148	34.51904	0.00000	4.3899	-5.8374	-0.068322
3.8490	42.09426	34.23348	0.00000	4.3879	-5.8348	-0.068292
4.3302	41.70704	33.94793	0.00000	4.3860	-5.8322	-0.068262
4.8113	41.31983	33.66235	0.00000	4.3840	-5.8297	-0.068232
5.2924	40.93261	33.37678	0.00000	4.3821	-5.8271	-0.068202
5.7735	40.54539	33.09122	0.00000	4.3802	-5.8245	-0.068171
6.2547	40.15817	32.80565	0.00000	4.3782	-5.8219	-0.068141
6.7358	39.77096	32.52009	0.00000	4.3763	-5.8193	-0.068111
7.2169	39.38374	32.23452	0.00000	4.3743	-5.8168	-0.068081
7.6981	38.99652	31.94896	0.00000	4.3724	-5.8142	-0.068051
8.1792	38.60930	31.66339	0.00000	4.3705	-5.8116	-0.068021
8.6603	38.22209	31.37783	0.00000	4.3685	-5.8090	-0.067990
9.1414	37.83487	31.09226	0.00000	4.3666	-5.8065	-0.067960
9.6226	37.44765	30.80670	0.00000	4.3647	-5.8039	-0.067930
10.1037	37.06043	30.52113	0.00000	4.3627	-5.8013	-0.067900
10.585	36.67322	30.23557	0.00000	4.3608	-5.7988	-0.067870
11.066	36.28600	29.95000	0.00000	4.3589	-5.7962	-0.067840

Structure: D | Sub-structure: D1

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	27.55900	34.95000	0.00000	1.0936	-1.0110	-1.4618
0.48439	27.27278	34.24078	0.00000	0.95615	-0.88737	-1.2809
0.96877	26.98656	33.53156	0.00000	0.81838	-0.75851	-1.0955
1.4532	26.70033	32.82233	0.00000	0.71775	-0.67481	-0.96852
1.9375	26.41411	32.11311	0.00000	0.62209	-0.59395	-0.84676
2.4219	26.12789	31.40389	0.00000	0.52654	-0.51299	-0.72262
2.9063	25.84167	30.69467	0.00000	0.43138	-0.43233	-0.59634
3.3907	25.55544	29.98544	0.00000	0.33630	-0.33395	-0.46814
3.8751	25.26922	29.27622	0.00000	0.24138	-0.24239	-0.33818
4.3595	24.98300	28.56700	0.00000	0.14660	-0.14876	-0.20663

Structure: D | Sub-structure: D2

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	24.98300	38.36700	0.00000	0.14660	-0.14876	-0.030332
0.49046	24.58738	38.07712	0.00000	0.12668	-0.12211	-0.030011
0.98091	24.19175	37.78725	0.00000	0.10749	-0.10467	-0.027541
1.4714	23.79613	37.49737	0.00000	0.077062	-0.066776	-0.022695
1.9618	23.40050	37.20750	0.00000	0.047420	-0.038880	-0.015272
2.4523	23.00488	36.91763	0.00000	0.014604	-0.011314	-0.0050933
2.9427	22.60925	36.62775	0.00000	0.0	0.0	0.0
3.4332	22.21363	36.33788	0.00000	0.0	0.0	0.0
3.9236	21.81800	36.04800	0.00000	0.0	0.0	0.0

Structure: D | Sub-structure: D3

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	21.81800	36.04800	0.00000	0.0	0.0	0.0
0.47627	21.54300	35.43686	0.00000	0.0	0.0	0.0
0.95254	21.26800	34.82571	0.00000	0.0	0.0	0.0
1.4288	20.99300	34.21457	0.00000	0.0	0.0	0.0
1.9051	20.71800	33.60342	0.00000	0.0	0.0	0.0
2.3814	20.44300	32.99229	0.00000	0.0	0.0	0.0
2.8576	20.16800	32.38114	0.00000	0.0	0.0	0.0
3.3339	19.89300	31.77000	0.00000	0.0	0.0	0.0

Structure: D | Sub-structure: D4

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	19.89300	38.77000	0.00000	0.0	0.0	0.0
0.48525	20.28585	39.05485	0.00000	0.0	0.0	0.0
0.97050	20.67870	39.33970	0.00000	0.0	0.0	0.0
1.4558	21.07155	39.62455	0.00000	0.0	0.0	0.0
1.9410	21.46439	39.90939	0.00000	0.0	0.0	0.0
2.4263	21.85724	40.19424	0.00000	0.0	0.0	0.0
2.9115	22.25009	40.47909	0.00000	0.0	0.0	0.0
3.3968	22.64294	40.76394	0.00000	0.0	0.0	0.0
3.8820	23.03579	41.04879	0.00000	0.0	0.0	0.0
4.3673	23.42864	41.33364	0.00000	0.0	0.0	0.0
4.8525	23.82148	41.61848	0.00000	0.0	0.0	0.0
5.3378	24.21433	41.90333	0.00000	0.0	0.0	0.0
5.8230	24.60718	42.18818	0.00000	0.0	0.0	0.0
6.3083	25.00003	42.47303	0.00000	0.0	0.0	0.0



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Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
6.7935	25.39288	42.75788	0.00000	0.0	0.0	0.0
7.2788	25.78573	43.04273	0.00000	0.0	0.0	0.0
7.7640	26.17858	43.32758	0.00000	0.0	0.0	0.0
8.2493	26.57142	43.61242	0.00000	0.0	0.0	0.0
8.7345	26.96427	43.89727	0.00000	0.0	0.0	0.0
9.2198	27.35712	44.18212	0.00000	0.0	0.0	0.0
9.7050	27.74997	44.46697	0.00000	0.0	0.0	0.0
10.190	28.14282	44.75182	0.00000	0.0	0.0	0.0
10.676	28.53567	45.03667	0.00000	0.0	0.0	0.0
11.161	28.92852	45.32152	0.00000	0.0	0.0	0.0
11.646	29.32137	45.60637	0.00000	0.0	0.0	0.0
12.131	29.71421	45.89121	0.00000	0.0	0.0	0.0
12.617	30.10706	46.17606	0.00000	0.0	0.0	0.0
13.102	30.49991	46.46091	0.00000	0.0	0.0	0.0
13.587	30.89276	46.74576	0.00000	0.0	0.0	0.0
14.072	31.28561	47.03061	0.00000	0.0	0.0	0.0
14.558	31.67845	47.31545	0.00000	0.0	0.0	0.0
15.043	32.07130	47.60030	0.00000	0.0	0.0	0.0
15.528	32.46415	47.88515	0.00000	0.0	0.0	0.0
16.013	32.85700	48.17000	0.00000	0.0	0.0	0.0

Structure: D | Sub-structure: D5

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	32.85700	48.17000	0.00000	0.0	0.0	0.0
0.44175	33.18711	47.91061	0.00000	0.0	0.0	0.0
0.88350	33.38243	47.45971	0.00000	0.0	0.0	0.0
1.3253	33.64514	47.10457	0.00000	0.0	0.0	0.0
1.7670	33.90786	46.74943	0.00000	0.0	0.0	0.0
2.2088	34.17057	46.39429	0.00000	0.020195	-0.026855	0.033600
2.6505	34.43329	46.03915	0.00000	0.10482	-0.13939	0.17440
3.0923	34.69600	45.68400	0.00000	0.18945	-0.25192	0.31520

Structure: D | Sub-structure: D6

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	34.69600	45.68400	0.00000	0.18945	-0.25192	-0.0025265
0.38681	34.38500	45.45400	0.00000	0.18886	-0.25113	-0.0025186
0.77362	34.07400	45.22400	0.00000	0.18826	-0.25034	-0.0025106
1.1604	33.76300	44.99400	0.00000	0.18767	-0.24955	-0.0025027

Structure: D | Sub-structure: D7

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	33.76300	44.99400	0.00000	0.18767	-0.24955	0.31223
0.45636	34.03370	44.62660	0.00000	0.27509	-0.36581	0.45768
0.91271	34.20440	44.25920	0.00000	0.36252	-0.48206	0.60313
1.3691	34.57510	43.89180	0.00000	0.44994	-0.59831	0.74858
1.8254	34.84580	43.52440	0.00000	0.53737	-0.71456	0.89403
2.2818	35.11650	43.15700	0.00000	0.62479	-0.83081	1.0395
2.7381	35.38720	42.78960	0.00000	0.71222	-0.94707	1.1849
3.1945	35.65790	42.42220	0.00000	0.81920	-1.0893	1.3299
3.6509	35.92860	42.05480	0.00000	0.95502	-1.2699	1.5889
4.1072	36.19930	41.68740	0.00000	1.0911	-1.4509	1.8154
4.5636	36.47000	41.32000	0.00000	1.2278	-1.6327	2.0427

Structure: D | Sub-structure: D8

Dist.	Coordinates			Displacements		
	x	y	z	x	y	z
[m]	[m]	[m]	[m]	[mm]	[mm]	[mm]
0.0	36.47000	41.32000	0.00000	1.2278	-1.6327	-0.034290
0.47879	36.08257	41.03870	0.00000	1.2254	-1.6295	-0.034222
0.95759	35.69513	40.75739	0.00000	1.2230	-1.6263	-0.034155
1.4364	35.30770	40.47609	0.00000	1.2206	-1.6230	-0.034088
1.9152	34.92026	40.19478	0.00000	1.2182	-1.6198	-0.034020
2.3939	34.53283	39.91348	0.00000	1.2157	-1.6166	-0.033953
2.8727	34.14539	39.63217	0.00000	1.2133	-1.6134	-0.033886
3.3515	33.75796	39.35087	0.00000	1.2109	-1.6102	-0.033818
3.8303	33.37052	39.06957	0.00000	1.2085	-1.6070	-0.033751
4.3091	32.98309	38.78826	0.00000	1.2061	-1.6038	-0.033683
4.7879	32.59565	38.50696	0.00000	1.2037	-1.6006	-0.033616
5.2667	32.20822	38.22565	0.00000	1.2013	-1.5974	-0.033549
5.7455	31.82078	37.94435	0.00000	1.1989	-1.5942	-0.033482
6.2242	31.43335	37.66304	0.00000	1.1965	-1.5910	-0.033414
6.7030	31.04591	37.38174	0.00000	1.1940	-1.5878	-0.033347
7.1818	30.65848	37.10043	0.00000	1.1916	-1.5846	-0.033280
7.6606	30.27104	36.81913	0.00000	1.1892	-1.5814	-0.033212
8.1394	29.88361	36.53783	0.00000	1.1868	-1.5782	-0.033145
8.6182	29.49617	36.25652	0.00000	1.1844	-1.5750	-0.033078
9.0970	29.10874	35.97522	0.00000	1.1820	-1.5718	-0.033011
9.5758	28.72130	35.69391	0.00000	1.1796	-1.5686	-0.032944
10.0546	28.33387	35.41261	0.00000	1.1872	-1.5654	-0.032877
10.5334	27.94643	35.13130	0.00000	1.1848	-1.5622	-0.032810
11.0122	27.55900	34.85000	0.00000	1.1824	-1.5590	-0.032743

Specific Building Damage Results - Vertical Displacements

Structure: A | Sub-structure: A1

Dist.	Coordinates			Displacements
	x	y	z	
[m]	[m]	[m]	[mm]	
Vertical Offset 1				
0.0	29.57700	22.24700	0.89047	
0.47829	29.95067	22.54556	1.0388	
0.95658	30.32433	22.84411	1.1956	
1.4349	30.69800	23.14267	1.3585	
1.9132	31.07167	23.44122	1.5246	
2.3915	31.44533	23.73978	1.6906	
2.8697	31.81900	24.03833	1.8551	
3.3480	32.19267	24.33689	2.0328	
3.8263	32.56633	24.63544	2.1985	
4.3046	32.94000	24.93400	2.3595	

Structure: A | Sub-structure: A2

Dist.	Coordinates			Displacements
	x	y	z	
[m]	[m]	[m]	[mm]	
Vertical Offset 1				
0.0	32.94000	24.93400	2.3595	



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Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
0.41896	33.20150	24.60667	0.00000	2.3636
0.83792	33.46300	24.27933	0.00000	2.3677
1.2569	33.72450	23.95200	0.00000	2.3718
1.6758	33.98600	23.62467	0.00000	2.3759
2.0948	34.24750	23.29733	0.00000	2.3800
2.5138	34.50900	22.97000	0.00000	2.3841

Structure: A | Sub-structure: A3

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	34.50900	22.97000	0.00000	2.3841
0.47280	34.87837	23.26512	0.00000	2.5430
0.94559	35.24775	23.56025	0.00000	2.7029
1.4184	35.61713	23.85537	0.00000	2.8622
1.8912	35.98650	24.15050	0.00000	3.0164
2.3640	36.35587	24.44563	0.00000	3.1584
2.8368	36.72525	24.74075	0.00000	3.2784
3.3096	37.09463	25.03588	0.00000	3.3637
3.7824	37.46400	25.33100	0.00000	3.3989

Structure: A | Sub-structure: A4

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	37.46400	25.33100	0.00000	3.3989
0.48725	37.75238	24.93825	0.00000	3.3988
0.97450	38.04075	24.54550	0.00000	3.3987
1.4618	38.32912	24.15275	0.00000	3.3987
1.9490	38.61750	23.76000	0.00000	3.3986
2.4363	38.90588	23.36725	0.00000	3.3985
2.9235	39.19425	22.97450	0.00000	3.3984
3.4108	39.48262	22.58175	0.00000	3.3983
3.8980	39.77100	22.18900	0.00000	3.3982

Structure: A | Sub-structure: A5

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	39.77100	22.18900	0.00000	3.3982
0.49935	39.37894	21.87975	0.00000	3.3536
0.99870	38.98687	21.57050	0.00000	3.2560
1.4980	38.59481	21.26125	0.00000	3.1227
1.9974	38.20275	20.95200	0.00000	2.9680
2.4967	37.81069	20.64275	0.00000	2.8026
2.9961	37.41862	20.33350	0.00000	2.6337
3.4954	37.02656	20.02425	0.00000	2.4652
3.9948	36.63450	19.71500	0.00000	2.2977
4.4941	36.24244	19.40575	0.00000	2.1283
4.9935	35.85038	19.09650	0.00000	1.9507
5.4929	35.45831	18.78725	0.00000	1.7695
5.9922	35.06625	18.47800	0.00000	1.5976
6.4915	34.67419	18.16875	0.00000	1.4238
6.9909	34.28213	17.85950	0.00000	1.2521
7.4902	33.89006	17.55025	0.00000	1.0859
7.9896	33.49800	17.24100	0.00000	0.92831

Structure: A | Sub-structure: A6

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	33.49800	17.24100	0.00000	0.92831
0.48914	33.19638	17.62608	0.00000	0.92537
0.97828	32.89477	18.01115	0.00000	0.92244
1.4674	32.59315	18.39623	0.00000	0.91952
1.9566	32.29154	18.78131	0.00000	0.91659
2.4457	31.98992	19.16638	0.00000	0.91367
2.9348	31.68831	19.55146	0.00000	0.91076
3.4240	31.38669	19.93654	0.00000	0.90785
3.9131	31.08508	20.32162	0.00000	0.90494
4.4022	30.78346	20.70669	0.00000	0.90204
4.8914	30.48185	21.09177	0.00000	0.89914
5.3805	30.18023	21.47685	0.00000	0.89625
5.8697	29.87862	21.86192	0.00000	0.89336
6.3588	29.57700	22.24700	0.00000	0.89047

Structure: B | Sub-structure: B1

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	20.51600	5.45800	0.00000	0.0
0.48720	20.90600	5.75000	0.00000	0.0
0.97440	21.29600	6.04200	0.00000	0.0
1.4616	21.68600	6.33400	0.00000	0.0
1.9488	22.07600	6.62600	0.00000	0.0
2.4360	22.46600	6.91800	0.00000	0.0
2.9232	22.85600	7.21000	0.00000	0.0
3.4104	23.24600	7.50200	0.00000	0.0
3.8976	23.63600	7.79400	0.00000	0.0

Structure: B | Sub-structure: B2

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	23.63600	7.79400	0.00000	0.0
0.46125	23.35400	8.11500	0.00000	0.0
0.92249	23.07200	8.52400	0.00000	0.0

Structure: B | Sub-structure: B3

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	23.07200	8.52400	0.00000	0.0
0.46917	23.44545	8.80800	0.00000	0.0
0.93835	23.81891	9.09200	0.00000	0.0
1.4075	24.19236	9.37600	0.00000	0.0
1.8767	24.56582	9.66000	0.00000	0.0
2.3459	24.93927	9.94400	0.00000	0.0
2.8150	25.31273	10.22800	0.00000	0.0
3.2842	25.68618	10.51200	0.00000	0.0
3.7534	26.05964	10.79600	0.00000	0.0



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Structure: B | Sub-structure: B4

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	z [mm]
4.2226	26.43309	11.08000	0.00000	0.0	0.0
4.6917	26.80655	11.36400	0.00000	0.0	0.0
5.1609	27.18000	11.64800	0.00000	0.0	0.0

Structure: B | Sub-structure: B5

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	z [mm]
0.0	27.18000	11.64800	0.00000	0.0	0.0
0.36061	27.39833	11.36100	0.00000	0.0	0.0
0.72122	27.61667	11.07400	0.00000	0.0	0.0
1.0818	27.83500	10.78700	0.00000	0.0	0.0

Structure: B | Sub-structure: B6

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	z [mm]
0.0	27.83500	10.78700	0.00000	0.0	0.0
0.48959	28.22792	11.07908	0.00000	0.0	0.0
0.97918	28.62085	11.37115	0.00000	0.0	0.0
1.4688	29.01377	11.66323	0.00000	0.023478	0.044447
1.9584	29.40669	11.95531	0.00000	0.060795	0.114447
2.4479	29.79962	12.24738	0.00000	0.104623	0.19972
2.9375	30.19254	12.53946	0.00000	0.156623	0.29745
3.4271	30.58546	12.83154	0.00000	0.216623	0.39745
3.9167	30.97838	13.12362	0.00000	0.283623	0.49972
4.4063	31.37131	13.41569	0.00000	0.357623	0.60447
4.8959	31.76423	13.70777	0.00000	0.438623	0.71171
5.3855	32.15715	13.99985	0.00000	0.526623	0.82147
5.8751	32.55008	14.29192	0.00000	0.621623	0.93371
6.3647	32.94300	14.58400	0.00000	0.723623	1.04847

Structure: B | Sub-structure: B7

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	z [mm]
0.0	32.94300	14.58400	0.00000	0.41530	0.41530
0.35614	32.73033	14.86967	0.00000	0.41563	0.41563
0.71227	32.51767	15.15533	0.00000	0.41596	0.41596
1.0684	32.30500	15.44100	0.00000	0.41629	0.41629

Structure: B | Sub-structure: B8

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	z [mm]
0.0	32.30500	15.44100	0.00000	0.41629	0.41629
0.36690	32.60133	15.65733	0.00000	0.49073	0.49073
0.73379	32.89767	15.87367	0.00000	0.57343	0.57343
1.1007	33.19400	16.09000	0.00000	0.66412	0.66412

Structure: B | Sub-structure: B9

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	z [mm]
0.0	33.19400	16.09000	0.00000	0.66412	0.66412
0.48246	32.90414	16.47568	0.00000	0.66416	0.66416
0.96493	32.61427	16.86136	0.00000	0.66420	0.66420
1.4474	32.32441	17.24705	0.00000	0.66423	0.66423
1.9299	32.03455	17.63273	0.00000	0.66427	0.66427
2.4123	31.74468	18.01841	0.00000	0.66430	0.66430
2.8948	31.45482	18.40409	0.00000	0.66434	0.66434
3.3772	31.16495	18.78977	0.00000	0.66438	0.66438
3.8597	30.87509	19.17545	0.00000	0.66441	0.66441
4.3422	30.58523	19.56114	0.00000	0.66445	0.66445
4.8246	30.29536	19.94682	0.00000	0.66448	0.66448
5.3071	30.00550	20.33250	0.00000	0.66452	0.66452
5.7896	29.71564	20.71818	0.00000	0.66456	0.66456
6.2720	29.42577	21.10386	0.00000	0.66459	0.66459
6.7545	29.13591	21.48955	0.00000	0.66463	0.66463
7.2370	28.84605	21.87523	0.00000	0.66466	0.66466
7.7194	28.55618	22.26091	0.00000	0.66470	0.66470
8.2019	28.26632	22.64659	0.00000	0.70068	0.70068
8.6843	27.97645	23.03227	0.00000	0.73147	0.73147
9.1668	27.68659	23.41795	0.00000	0.75505	0.75505
9.6493	27.39673	23.80364	0.00000	0.77117	0.77117
10.132	27.10686	24.18932	0.00000	0.77974	0.77974
10.614	26.81700	24.57500	0.00000	0.78088	0.78088

Structure: B | Sub-structure: B10

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	z [mm]
0.0	26.81700	24.57500	0.00000	0.78088	0.78088
0.43274	26.47567	24.30900	0.00000	0.66551	0.66551
0.86548	26.13433	24.04300	0.00000	0.56226	0.56226
1.29822	25.79299	23.77700	0.00000	0.47112	0.47112
1.7310	25.45167	23.51100	0.00000	0.39184	0.39184
2.1637	25.11033	23.24500	0.00000	0.32391	0.32391
2.5964	24.76900	22.97900	0.00000	0.26657	0.26657

Structure: B | Sub-structure: B11

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	z [mm]
0.0	24.76900	22.97900	0.00000	0.26657	0.26657
0.43530	25.02950	22.63025	0.00000	0.26186	0.26186
0.87060	25.29000	22.28150	0.00000	0.25487	0.25487
1.3059	25.55050	21.93275	0.00000	0.24563	0.24563
1.7412	25.81100	21.58400	0.00000	0.23419	0.23419

Structure: B | Sub-structure: B11

Dist.	Coordinates			Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]	z [mm]
0.0	25.81100	21.58400	0.00000	0.23419	0.23419
0.47915	25.43280	21.28980	0.00000	0.18491	0.18491
0.95831	25.05460	20.99560	0.00000	0.14641	0.14641



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Dist. Coordinates Displacements

[m]	x [m]	y [m]	z [m]	z [mm]
1.4375	24.67640	20.70140	0.00000	0.11661
1.9166	24.29820	20.40720	0.00000	0.092987
2.3958	23.92000	20.11300	0.00000	0.072572

Structure: B | Sub-structure: B12

Dist. Coordinates Displacements

[m]	x [m]	y [m]	z [m]	z [mm]	
Vertical Offset 1	0.0	23.92000	20.11300	0.00000	0.072572
0.47317	24.21050	19.73950	0.00000	0.068390	
0.94635	24.50100	19.36600	0.00000	0.063414	

Structure: B | Sub-structure: B13

Dist. Coordinates Displacements

[m]	x [m]	y [m]	z [m]	z [mm]	
Vertical Offset 1	0.0	24.50100	19.36600	0.00000	0.063414
0.45943	24.13650	19.08633	0.00000	0.047867	
0.91896	23.77200	18.80667	0.00000	0.028887	
1.3783	23.40750	18.52700	0.00000	0.0	
1.8377	23.04300	18.24733	0.00000	0.0	
2.2971	22.67850	17.96767	0.00000	0.0	
2.7566	22.31400	17.68800	0.00000	0.0	

Structure: B | Sub-structure: B14

Dist. Coordinates Displacements

[m]	x [m]	y [m]	z [m]	z [mm]	
Vertical Offset 1	0.0	22.31400	17.68800	0.00000	0.0
0.44350	22.04420	18.04000	0.00000	0.0	
0.88701	21.77440	18.39200	0.00000	0.0	
1.3305	21.50460	18.74400	0.00000	0.0	
1.7740	21.23480	19.09600	0.00000	0.0	
2.2175	20.96500	19.44800	0.00000	0.0	

Structure: B | Sub-structure: B15

Dist. Coordinates Displacements

[m]	x [m]	y [m]	z [m]	z [mm]	
Vertical Offset 1	0.0	20.96500	19.44800	0.00000	0.0
0.49138	20.57211	19.15289	0.00000	0.0	
0.98276	20.17922	18.85778	0.00000	0.0	
1.4741	19.78633	18.56267	0.00000	0.0	
1.9655	19.39344	18.26756	0.00000	0.0	
2.4569	19.00056	17.97244	0.00000	0.0	
2.9483	18.60767	17.67733	0.00000	0.0	
3.4396	18.21478	17.38222	0.00000	0.0	
3.9310	17.82189	17.08711	0.00000	0.0	
4.4224	17.42900	16.79200	0.00000	0.0	

Structure: B | Sub-structure: B16

Dist. Coordinates Displacements

[m]	x [m]	y [m]	z [m]	z [mm]	
Vertical Offset 1	0.0	17.42900	16.79200	0.00000	0.0
0.49346	17.71689	16.39122	0.00000	0.0	
0.98692	18.00478	15.99044	0.00000	0.0	
1.4804	18.29267	15.58967	0.00000	0.0	
1.9738	18.58056	15.18889	0.00000	0.0	
2.4673	18.86844	14.78811	0.00000	0.0	
2.9608	19.15633	14.38733	0.00000	0.0	
3.4542	19.44422	13.98656	0.00000	0.0	
3.9477	19.73211	13.58578	0.00000	0.0	
4.4411	20.02000	13.18500	0.00000	0.0	

Structure: B | Sub-structure: B17

Dist. Coordinates Displacements

[m]	x [m]	y [m]	z [m]	z [mm]	
Vertical Offset 1	0.0	20.02000	13.18500	0.00000	0.0
0.48838	19.64200	12.87575	0.00000	0.0	
0.97677	19.26400	12.56650	0.00000	0.0	
1.4652	18.88600	12.25725	0.00000	0.0	
1.9535	18.50800	11.94800	0.00000	0.0	

Structure: B | Sub-structure: B18

Dist. Coordinates Displacements

[m]	x [m]	y [m]	z [m]	z [mm]	
Vertical Offset 1	0.0	18.50800	11.94800	0.00000	0.0
0.43983	18.77567	11.59900	0.00000	0.0	
0.87965	19.04333	11.25000	0.00000	0.0	
1.3195	19.31100	10.90100	0.00000	0.0	

Structure: B | Sub-structure: B19

Dist. Coordinates Displacements

[m]	x [m]	y [m]	z [m]	z [mm]	
Vertical Offset 1	0.0	19.31100	10.90100	0.00000	0.0
0.47300	18.93200	10.61540	0.00000	0.0	
0.94600	18.55540	10.33180	0.00000	0.0	
1.4190	18.17760	10.04720	0.00000	0.0	
1.8920	17.79980	9.76260	0.00000	0.0	
2.3650	17.42200	9.47800	0.00000	0.0	

Structure: B | Sub-structure: B20

Dist. Coordinates Displacements

[m]	x [m]	y [m]	z [m]	z [mm]	
Vertical Offset 1	0.0	17.42200	9.47800	0.00000	0.0
0.46116	17.70327	9.11255	0.00000	0.0	
0.92233	17.98455	8.74709	0.00000	0.0	
1.3835	18.26582	8.38164	0.00000	0.0	



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Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
1.8447	18.54709	8.01618	0.00000	0.0
2.3058	18.82836	7.65073	0.00000	0.0
2.7670	19.10964	7.28527	0.00000	0.0
3.2281	19.39091	6.91982	0.00000	0.0
3.6893	19.67218	6.55436	0.00000	0.0
4.1505	19.95345	6.18891	0.00000	0.0
4.6116	20.23473	5.82345	0.00000	0.0
5.0728	20.51600	5.45800	0.00000	0.0

Structure: C | Sub-structure: C1

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	36.28600	29.95000	0.00000	5.1389
0.45629	36.00578	30.31011	0.00000	5.1822
0.91259	35.72556	30.67022	0.00000	5.1698
1.3689	35.44533	31.03033	0.00000	5.1087
1.8252	35.16511	31.39044	0.00000	5.0054
2.2815	34.88489	31.75056	0.00000	4.8660
2.7378	34.60467	32.11067	0.00000	4.6965
3.1941	34.32444	32.47078	0.00000	4.5021
3.6504	34.04422	32.83089	0.00000	4.2879
4.1066	33.76400	33.19100	0.00000	4.0587

Structure: C | Sub-structure: C2

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	33.76400	33.19100	0.00000	4.0587
0.48792	33.36471	32.91057	0.00000	4.0505
0.97585	32.96543	32.63014	0.00000	4.0423
1.4638	32.56614	32.34971	0.00000	3.9410
1.9517	32.16686	32.06929	0.00000	3.7951
2.4396	31.76757	31.78886	0.00000	3.6333
2.9275	31.36829	31.50843	0.00000	3.4579
3.4155	30.96900	31.22800	0.00000	3.2736

Structure: C | Sub-structure: C3

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	30.96900	31.22800	0.00000	3.2736
0.48944	30.68767	31.62850	0.00000	3.0876
0.97887	30.40633	32.02900	0.00000	2.8889
1.4683	30.12500	32.42950	0.00000	2.6822
1.9577	29.84367	32.83000	0.00000	2.4719
2.4472	29.56233	33.23050	0.00000	2.2619
2.9366	29.28100	33.63100	0.00000	2.0553

Structure: C | Sub-structure: C4

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	29.28100	33.63100	0.00000	2.0553
0.48464	29.66840	33.92220	0.00000	2.1548
0.96928	30.05580	34.21340	0.00000	2.2450
1.4539	30.44320	34.50460	0.00000	2.3245
1.9386	30.83060	34.79580	0.00000	2.3919
2.4232	31.21800	35.08700	0.00000	2.4259

Structure: C | Sub-structure: C5

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	31.21800	35.08700	0.00000	2.4259
0.42208	31.42400	35.45540	0.00000	2.3398
0.84417	31.63000	35.82380	0.00000	2.2549
1.2663	31.83600	36.19220	0.00000	2.1714
1.6883	32.04200	36.56060	0.00000	2.0895
2.1104	32.24800	36.92900	0.00000	2.0090

Structure: C | Sub-structure: C6

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	32.24800	36.92900	0.00000	2.0090
0.46414	32.62185	37.20408	0.00000	2.0113
0.92829	32.99569	37.47915	0.00000	2.0136
1.3924	33.36954	37.75423	0.00000	2.0158
1.8566	33.74338	38.02931	0.00000	2.0181
2.3207	34.11723	38.30439	0.00000	2.0204
2.7849	34.49108	38.57946	0.00000	2.0226
3.2490	34.86492	38.85454	0.00000	2.0249
3.7131	35.23877	39.12962	0.00000	2.0272
4.1773	35.61262	39.40469	0.00000	2.0295
4.6414	35.98646	39.67977	0.00000	2.0317
5.1056	36.36031	39.95485	0.00000	2.0340
5.5697	36.73415	40.22992	0.00000	2.0363
6.0339	37.10800	40.50500	0.00000	2.0386

Structure: C | Sub-structure: C7

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	37.10800	40.50500	0.00000	2.0386
0.44342	37.37100	40.14800	0.00000	2.2522

Structure: C | Sub-structure: C8

Dist. Coordinates Displacements

Dist.	x	y	z	z
[m]	[m]	[m]	[m]	[mm]
Vertical Offset 1				
0.0	37.37100	40.14800	0.00000	2.2522
0.49716	37.77140	40.44270	0.00000	2.2547
0.99432	38.17180	40.73740	0.00000	2.2573
1.4915	38.57220	41.03210	0.00000	2.2598
1.9886	38.97260	41.32680	0.00000	2.2623
2.4858	39.37300	41.62150	0.00000	2.2648



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Structure: C | Sub-structure: C9

Dist.	Coordinates			Displacements	
	x	y	z	z	
[m]	[m]	[m]	[m]	[mm]	
2.9830	39.77340	41.91620	0.00000	2.2674	
3.4801	40.17380	42.21090	0.00000	2.2699	
3.9773	40.57420	42.50560	0.00000	2.2724	
4.4744	40.97460	42.80030	0.00000	2.2750	
4.9716	41.37500	43.09500	0.00000	2.2775	

Structure: C | Sub-structure: C9

Dist.	Coordinates			Displacements	
	x	y	z	z	
[m]	[m]	[m]	[m]	[mm]	
0.0	41.37500	43.09500	0.00000	2.2775	
0.43642	41.63357	42.74350	0.00000	2.4981	
0.87284	41.89223	42.39200	0.00000	2.7262	
1.3093	42.15100	42.04050	0.00000	2.9602	
1.7457	42.40967	41.68900	0.00000	3.1981	
2.1821	42.66833	41.33750	0.00000	3.4373	
2.6185	42.92700	40.98600	0.00000	3.6754	

Structure: C | Sub-structure: C10

Dist.	Coordinates			Displacements	
	x	y	z	z	
[m]	[m]	[m]	[m]	[mm]	
0.0	42.92700	40.98600	0.00000	3.6754	
0.41162	42.59850	40.74200	0.00000	3.6731	
0.82323	42.26400	40.49800	0.00000	3.6708	

Structure: C | Sub-structure: C11

Dist.	Coordinates			Displacements	
	x	y	z	z	
[m]	[m]	[m]	[m]	[mm]	
0.0	42.26400	40.49800	0.00000	3.6708	
0.49410	42.55680	40.10000	0.00000	3.9351	
0.98820	42.84960	39.70200	0.00000	4.1894	
1.4823	43.14240	39.30400	0.00000	4.4283	
1.9764	43.43520	38.90600	0.00000	4.6461	
2.4705	43.72800	38.50800	0.00000	4.8363	
2.9646	44.02080	38.11000	0.00000	4.9924	
3.4587	44.31360	37.71200	0.00000	5.1069	
3.9528	44.60640	37.31400	0.00000	5.1720	
4.4469	44.89920	36.91600	0.00000	5.1795	
4.9410	45.19200	36.51800	0.00000	5.1206	

Structure: C | Sub-structure: C12

Dist.	Coordinates			Displacements	
	x	y	z	z	
[m]	[m]	[m]	[m]	[mm]	
0.0	45.19200	36.51800	0.00000	5.1206	
0.48113	44.80478	36.23243	0.00000	5.1215	
0.96226	44.41757	35.94687	0.00000	5.1223	
1.4434	44.03035	35.66130	0.00000	5.1232	
1.9245	43.64313	35.37574	0.00000	5.1240	
2.4056	43.25591	35.09017	0.00000	5.1249	
2.8868	42.86870	34.80461	0.00000	5.1257	
3.3679	42.48148	34.51904	0.00000	5.1265	
3.8490	42.09426	34.23348	0.00000	5.1274	
4.3302	41.70704	33.94791	0.00000	5.1282	
4.8113	41.31983	33.66235	0.00000	5.1290	
5.2924	40.93261	33.37678	0.00000	5.1298	
5.7735	40.54539	33.09122	0.00000	5.1306	
6.2547	40.15817	32.80565	0.00000	5.1314	
6.7358	39.77096	32.52009	0.00000	5.1322	
7.2169	39.38374	32.23452	0.00000	5.1329	
7.6981	38.99652	31.94896	0.00000	5.1337	
8.1792	38.60930	31.66339	0.00000	5.1345	
8.6603	38.22209	31.37783	0.00000	5.1352	
9.1414	37.83487	31.09226	0.00000	5.1360	
9.6226	37.44765	30.80670	0.00000	5.1367	
10.1037	37.06043	30.52113	0.00000	5.1375	
10.5848	36.67322	30.23557	0.00000	5.1382	
11.066	36.28600	29.95000	0.00000	5.1389	

Structure: D | Sub-structure: D1

Dist.	Coordinates			Displacements	
	x	y	z	z	
[m]	[m]	[m]	[m]	[mm]	
0.0	27.55900	34.85000	0.00000	1.1938	
0.48439	27.27278	35.24078	0.00000	1.0480	
0.96877	26.98656	35.63156	0.00000	0.91298	
1.4532	26.70033	36.02233	0.00000	0.78823	
1.9375	26.41411	36.41311	0.00000	0.67284	
2.4219	26.12789	36.80389	0.00000	0.56539	
2.9063	25.84167	37.19467	0.00000	0.46401	
3.3907	25.55544	37.58544	0.00000	0.36632	
3.8751	25.26922	37.97622	0.00000	0.26953	
4.3595	24.98300	38.36700	0.00000	0.17032	

Structure: D | Sub-structure: D2

Dist.	Coordinates			Displacements	
	x	y	z	z	
[m]	[m]	[m]	[m]	[mm]	
0.0	24.98300	38.36700	0.00000	0.17032	
0.49046	24.58738	38.07712	0.00000	0.14527	
0.98091	24.19175	37.78725	0.00000	0.11761	
1.4714	23.79613	37.49737	0.00000	0.087370	
1.9618	23.40050	37.20750	0.00000	0.054462	
2.4523	23.00488	36.91763	0.00000	0.028718	
2.9427	22.60925	36.62775	0.00000	0.0	
3.4332	22.21363	36.33788	0.00000	0.0	
3.9236	21.81800	36.04800	0.00000	0.0	

Structure: D | Sub-structure: D3

Dist.	Coordinates			Displacements	
	x	y	z	z	
[m]	[m]	[m]	[m]	[mm]	
0.0	21.81800	36.04800	0.00000	0.0	
0.47627	21.54300	36.43686	0.00000	0.0	
0.95254	21.26800	36.82571	0.00000	0.0	
1.4288	20.99300	37.21457	0.00000	0.0	
1.9051	20.71800	37.60343	0.00000	0.0	
2.3814	20.44300	37.99229	0.00000	0.0	
2.8576	20.16800	38.38114	0.00000	0.0	



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Dist.	Coordinates		Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]
3.3339	19.89300	38.77000	0.00000	0.0

Structure: D | Sub-structure: D4

Dist.	Coordinates		Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]

Vertical Offset 1

0.0	19.89300	38.77000	0.00000	0.0
0.48525	20.28585	39.05485	0.00000	0.0
0.97050	20.67870	39.33970	0.00000	0.0
1.4558	21.07155	39.62455	0.00000	0.0
1.9410	21.46439	39.90939	0.00000	0.0
2.4263	21.85724	40.19424	0.00000	0.0
2.9115	22.25009	40.47909	0.00000	0.0
3.3968	22.64294	40.76394	0.00000	0.0
3.8820	23.03579	41.04879	0.00000	0.0
4.3673	23.42864	41.33364	0.00000	0.0
4.8525	23.82149	41.61849	0.00000	0.0
5.3378	24.21433	41.90333	0.00000	0.0
5.8230	24.60718	42.18818	0.00000	0.0
6.3083	25.00003	42.47303	0.00000	0.0
6.7935	25.39288	42.75788	0.00000	0.0
7.2788	25.78573	43.04273	0.00000	0.0
7.7640	26.17858	43.32758	0.00000	0.0
8.2493	26.57142	43.61242	0.00000	0.0
8.7345	26.96427	43.89727	0.00000	0.0
9.2198	27.35712	44.18212	0.00000	0.0
9.7050	27.74997	44.46697	0.00000	0.0
10.1903	28.14282	44.75182	0.00000	0.0
10.6755	28.53567	45.03667	0.00000	0.0
11.1608	28.92852	45.32152	0.00000	0.0
11.6460	29.32136	45.60636	0.00000	0.0
12.1313	29.71421	45.89121	0.00000	0.0
12.6165	30.10706	46.17606	0.00000	0.0
13.1018	30.49991	46.46091	0.00000	0.0
13.5870	30.89276	46.74576	0.00000	0.0
14.0723	31.28561	47.03061	0.00000	0.0
14.5575	31.67845	47.31545	0.00000	0.0
15.0428	32.07130	47.60030	0.00000	0.0
15.5280	32.46415	47.88515	0.00000	0.0
16.0133	32.85700	48.17000	0.00000	0.0

Structure: D | Sub-structure: D5

Dist.	Coordinates		Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]

Vertical Offset 1

0.0	32.85700	48.17000	0.00000	0.0
0.44175	33.11971	47.81486	0.00000	0.0
0.88350	33.38243	47.45971	0.00000	0.0
1.32525	33.64514	47.10457	0.00000	0.0
1.76700	33.90786	46.74943	0.00000	0.0
2.20875	34.17057	46.39429	0.00000	0.030748
2.65050	34.43329	46.03914	0.00000	0.14205
3.09225	34.69600	45.68400	0.00000	0.24739

Structure: D | Sub-structure: D6

Dist.	Coordinates		Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]

Vertical Offset 1

0.0	34.69600	45.68400	0.00000	0.24739
0.38681	34.38500	45.45400	0.00000	0.24667
0.77362	34.07400	45.22400	0.00000	0.24594
1.16043	33.76300	44.99400	0.00000	0.24521

Structure: D | Sub-structure: D7

Dist.	Coordinates		Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]

Vertical Offset 1

0.0	33.76300	44.99400	0.00000	0.24521
0.45636	34.03370	44.62660	0.00000	0.35124
0.91271	34.30440	44.25920	0.00000	0.45752
1.36916	34.57510	43.89180	0.00000	0.56691
1.82561	34.84580	43.52440	0.00000	0.68190
2.28206	35.11650	43.15700	0.00000	0.80460
2.73851	35.38720	42.78960	0.00000	0.93679
3.19496	35.65790	42.42220	0.00000	1.0799
3.65141	35.92860	42.05480	0.00000	1.2348
4.10786	36.19930	41.68740	0.00000	1.4024
4.56431	36.47000	41.32000	0.00000	1.5828

Structure: D | Sub-structure: D8

Dist.	Coordinates		Displacements	
[m]	x [m]	y [m]	z [m]	z [mm]

Vertical Offset 1

0.0	36.47000	41.32000	0.00000	1.5828
0.47879	36.08257	41.03870	0.00000	1.5795
0.95758	35.69513	40.75739	0.00000	1.5762
1.43637	35.30770	40.47609	0.00000	1.5729
1.91516	34.92026	40.19478	0.00000	1.5696
2.39395	34.53283	39.91348	0.00000	1.5664
2.87274	34.14539	39.63217	0.00000	1.5631
3.35153	33.75796	39.35087	0.00000	1.5598
3.83032	33.37052	39.06957	0.00000	1.5566
4.30911	32.98309	38.78826	0.00000	1.5533
4.78790	32.59565	38.50696	0.00000	1.5501
5.26669	32.20822	38.22565	0.00000	1.5468
5.74548	31.82078	37.94435	0.00000	1.5436
6.22427	31.43335	37.66304	0.00000	1.5403
6.70306	31.04591	37.38174	0.00000	1.5371
7.18185	30.65848	37.10043	0.00000	1.5339
7.66064	30.27104	36.81913	0.00000	1.5306
8.13943	29.88361	36.53783	0.00000	1.5273
8.61822	29.49617	36.25652	0.00000	1.4888
9.09701	29.10874	35.97522	0.00000	1.4424
9.57580	28.72130	35.69391	0.00000	1.3888
10.05459	28.33387	35.41261	0.00000	1.3289
10.53338	27.94643	35.13130	0.00000	1.2636
11.01217	27.55900	34.85000	0.00000	1.1938

Specific Building Damage Results - All Segments

Structure: A | Sub-structure: A1

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Horizontal Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
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[m]	[m]	[m]	[%]	[%]	[%]	[m]	[m]	[m]	[m]	[m]	[m]	[m]
0.0	1	0.0	3.0866	Hogging	606.90E-6	0.034544	0.034780	-651.10E-6	-371.32E-6	25067.	0	(Negligible)
	2	3.0866	1.2174	Sagging	505.32E-6	0.065152	0.065308	-651.10E-6	-371.32E-6	34906.	1	(Very Slight)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: A | Sub-structure: A2

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	0.93965	Sagging	0.0	55.843E-6	55.826E-6	0.0	-9.8101E-6	2.4833E+9	0 (Negligible)
	2	0.93965	1.5734	Hogging	0.0	55.843E-6	55.826E-6	0.0	-9.8105E-6	1.2926E+9	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: A | Sub-structure: A3

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	0.62828	Hogging	41.583E-6	0.065152	0.065156	-651.10E-6	-338.00E-6	150640.	1 (Very Slight)
	2	0.62828	3.1537	Sagging	0.0038270	0.065152	0.068042	-651.10E-6	-338.00E-6	4152.1	1 (Very Slight)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: A | Sub-structure: A4

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	3.8980	Sagging	1.9102E-6	8.5448E-6	10.264E-6	0.0	0.0	25.166E+6	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: A | Sub-structure: A5

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	3.3782	Sagging	0.0036048	0.065174	0.068061	-651.31E-6	338.04E-6	4344.0	1 (Very Slight)
	2	3.3782	0.13777	Hogging	24.590E-6	0.065174	0.065174	-651.31E-6	337.11E-6	2.0994E+6	1 (Very Slight)
	3	3.5160	1.6385	Sagging	482.58E-6	0.063768	0.063967	-651.31E-6	362.66E-6	45570.	1 (Very Slight)
	4	5.1545	2.8345	Hogging	556.86E-6	0.034127	0.034326	-508.40E-6	362.66E-6	26928.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: A | Sub-structure: A6

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	1	0.0	6.3580	Hogging	1.3799E-6	12.319E-6	13.340E-6	0.0	6.0014E-6	56.083E+6	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B1

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	All settlements are less than the Settlement Trough Limit Sensitivity.										

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B2

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	All settlements are less than the Settlement Trough Limit Sensitivity.										

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B3

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	All settlements are less than the Settlement Trough Limit Sensitivity.										

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B4

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	All settlements are less than the Settlement Trough Limit Sensitivity.										

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B5

Vertical Offset from Line for Vertical Movement	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement	Min Radius of Curvature	Damage Category
[m]		[m]	[m]		[%]	[%]	[%]			[m]	
0.0	All settlements are less than the Settlement Trough Limit Sensitivity.										

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.



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Calculations
[m] [m] [m] [%] [%] [%] Curve [m]
0.0 1 3.9167 2.4473 Hogging 0.0016321 0.031874 0.032381 -318.64E-6 -176.06E-6 16220. 0
(Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B6

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] 0.0	[m] 1.0680	Hogging	[%] 0.0	[%] 0.0	[%] 0.0	0.0	0.0	[m] 686.78E+6	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B7

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] 0.0	[m] 1.1000	Hogging	[%] 741.35E-6	[%] 0.031869	[%] 0.031973	-318.58E-6	-247.12E-6	[m] 16223.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B8

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] 0.0	[m] 8.3969	Hogging	[%] 529.52E-6	[%] -0.0012588	[%] 386.27E-6	158.40E-6	-74.577E-6	[m] 13972.	0 (Negligible)
	2	[m] 8.3969	[m] 2.2171	Sagging	[%] 891.04E-6	[%] -0.013887	[%] 0.0028218	158.40E-6	-63.837E-6	[m] 31034.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B9

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] 0.0	[m] 2.5960	Hogging	[%] 0.0020191	[%] 0.023171	[%] 0.023835	-247.48E-6	266.54E-6	[m] 15462.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B10

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] 0.0	[m] 1.7410	Sagging	[%] 256.61E-6	[%] -0.0053068	[%] 0.0010713	58.484E-6	26.269E-6	[m] 82824.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B11

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	1	[m] 0.0	[m] 1.4375	Hogging	[%] 701.98E-6	[%] 0.029532	[%] 0.029661	-298.82E-6	102.83E-6	[m] 20304.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B12

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	All settlements are less than the Settlement Trough Limit Sensitivity.										

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B13

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	All settlements are less than the Settlement Trough Limit Sensitivity.										

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B14

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	All settlements are less than the Settlement Trough Limit Sensitivity.										

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B15

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0	All settlements are less than the Settlement Trough Limit Sensitivity.										

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B16



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Vertical Offset from Line for Vertical Movement Calculations

Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
	[m]	[m]	[m]	[%]	[%]	[%]			[m]	
0.0										

All settlements are less than the Settlement Trough Limit Sensitivity. Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B17

Vertical Offset from Line for Vertical Movement Calculations

Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
	[m]	[m]	[m]	[%]	[%]	[%]			[m]	
0.0										

All settlements are less than the Settlement Trough Limit Sensitivity. Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B18

Vertical Offset from Line for Vertical Movement Calculations

Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
	[m]	[m]	[m]	[%]	[%]	[%]			[m]	
0.0										

All settlements are less than the Settlement Trough Limit Sensitivity. Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B19

Vertical Offset from Line for Vertical Movement Calculations

Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
	[m]	[m]	[m]	[%]	[%]	[%]			[m]	
0.0										

All settlements are less than the Settlement Trough Limit Sensitivity. Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: B | Sub-structure: B20

Vertical Offset from Line for Vertical Movement Calculations

Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
	[m]	[m]	[m]	[%]	[%]	[%]			[m]	
0.0										

All settlements are less than the Settlement Trough Limit Sensitivity. Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C1

Vertical Offset from Line for Vertical Movement Calculations

Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category	
	[m]	[m]	[m]	[%]	[%]	[%]			[m]		
0.0	1	0.0	4.1060	Sagging	0.0084332	0.063977	0.071904	-704.55E-6	502.00E-6	3636.1	1 (Very Slight)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C2

Vertical Offset from Line for Vertical Movement Calculations

Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category	
	[m]	[m]	[m]	[%]	[%]	[%]			[m]		
0.0	1	0.0	0.24383	None	0.0	60.877E-6	60.904E-6	0.0	16.773E-6	10228.	0 (Negligible)
	2	0.24383	3.1712	Sagging	0.0058891	-0.022981	0.0056510	351.44E-6	377.93E-6	4128.5	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C3

Vertical Offset from Line for Vertical Movement Calculations

Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category	
	[m]	[m]	[m]	[%]	[%]	[%]			[m]		
0.0	1	0.0	1.9472	Sagging	818.50E-6	0.026911	0.027309	-311.24E-6	429.45E-6	17040.	0 (Negligible)
	2	1.9472	0.98881	Hogging	175.92E-6	0.033834	0.033856	-346.47E-6	429.45E-6	56349.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C4

Vertical Offset from Line for Vertical Movement Calculations

Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category	
	[m]	[m]	[m]	[%]	[%]	[%]			[m]		
0.0	1	0.0	2.4230	Sagging	0.0019260	-0.014991	0.0031861	171.22E-6	-205.47E-6	6113.9	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C5

Vertical Offset from Line for Vertical Movement Calculations

Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category	
	[m]	[m]	[m]	[%]	[%]	[%]			[m]		
0.0	1	0.0	2.1100	Hogging	206.44E-6	0.0083672	0.0084226	-84.334E-6	204.18E-6	114140.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: C | Sub-structure: C6

Vertical Offset from Line for Vertical Movement Calculations

Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category	
	[m]	[m]	[m]	[%]	[%]	[%]			[m]		
0.0	1	0.0	6.0330	Hogging	0.0	5.5349E-6	5.8293E-6	0.0	-4.9084E-6	166.76E+6	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.



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Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
Tensile horizontal strains are +ve, compressive horizontal strains are -ve.										

Structure: C | Sub-structure: C7

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
Calculations [m]		[m]	[m]	[%]	[%]	[%]			[m]	
0.0	1	0.0	0.44300	Sagging	0.0	0.051030	0.051030	-510.04E-6	-481.57E-6	1 (Very Slight)
Tensile horizontal strains are +ve, compressive horizontal strains are -ve.										

Structure: C | Sub-structure: C8

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
Calculations [m]		[m]	[m]	[%]	[%]	[%]			[m]	
0.0	1	0.0	4.9710	Hogging	0.0	5.4493E-6	5.6148E-6	0.0	-5.1048E-6	194.50E+6 (Negligible)
Tensile horizontal strains are +ve, compressive horizontal strains are -ve.										

Structure: C | Sub-structure: C9

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
Calculations [m]		[m]	[m]	[%]	[%]	[%]			[m]	
0.0	1	0.0	2.0541	Hogging	695.22E-6	0.052894	0.053075	-544.77E-6	-547.93E-6	23698.1 (Very Slight)
	2	2.0541	0.56388	Sagging	49.108E-6	0.055210	0.055217	-553.86E-6	-547.93E-6	100440.1 (Very Slight)
Tensile horizontal strains are +ve, compressive horizontal strains are -ve.										

Structure: C | Sub-structure: C10

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
Calculations [m]		[m]	[m]	[%]	[%]	[%]			[m]	
0.0	1	0.0	0.82300	Sagging	0.0	5.9096E-6	5.9009E-6	0.0	5.5727E-6	434.17E+6 (Negligible)
Tensile horizontal strains are +ve, compressive horizontal strains are -ve.										

Structure: C | Sub-structure: C11

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
Calculations [m]		[m]	[m]	[%]	[%]	[%]			[m]	
0.0	1	0.0	4.9410	Sagging	0.0091272	0.063075	0.072926	-708.14E-6	-534.77E-6	3562.2 (Very Slight)
Tensile horizontal strains are +ve, compressive horizontal strains are -ve.										

Structure: C | Sub-structure: C12

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
Calculations [m]		[m]	[m]	[%]	[%]	[%]			[m]	
0.0	1	0.0	11.065	Sagging	3.6969E-6	6.2724E-6	11.909E-6	0.0	-1.7955E-6	36.888E+6 (Negligible)
Tensile horizontal strains are +ve, compressive horizontal strains are -ve.										

Structure: D | Sub-structure: D1

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
Calculations [m]		[m]	[m]	[%]	[%]	[%]			[m]	
0.0	1	0.0	3.5485	Hogging	0.0015138	0.029196	0.029870	-382.53E-6	300.91E-6	21562. (Negligible)
	2	3.5485	0.81050	Sagging	119.31E-6	0.027025	0.027050	-271.50E-6	204.75E-6	72659. (Negligible)
Tensile horizontal strains are +ve, compressive horizontal strains are -ve.										

Structure: D | Sub-structure: D2

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
Calculations [m]		[m]	[m]	[%]	[%]	[%]			[m]	
0.0	1	0.0	0.98091	Sagging	131.05E-6	284.54E-6	328.48E-6	-9.8796E-6	61.663E-6	92119. (Negligible)
Tensile horizontal strains are +ve, compressive horizontal strains are -ve.										

Structure: D | Sub-structure: D3

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
Calculations [m]		[m]	[m]	[%]	[%]	[%]			[m]	
0.0	All settlements are less than the Settlement Trough Limit Sensitivity.									
Tensile horizontal strains are +ve, compressive horizontal strains are -ve.										

Structure: D | Sub-structure: D4

Vertical Offset from Line for Vertical Movement	Segment	Start Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
Calculations [m]		[m]	[m]	[%]	[%]	[%]			[m]	
0.0	All settlements are less than the Settlement Trough Limit Sensitivity.									
Tensile horizontal strains are +ve, compressive horizontal strains are -ve.										

Structure: D | Sub-structure: D5



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Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0		[m] 1 2.6505	[m] 0.15988	Sagging	[%] 0.0	[%] 0.031873	[%] 0.031873	-318.63E-6	-251.88E-6	[m] 12468.	0 (Negligible)
		2 2.8104	0.28161	Sagging	0.0	0.031873	0.031873	-318.63E-6	-238.39E-6	7078.8	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: D | Sub-structure: D6

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0		[m] 1 0.0	[m] 1.1600	Sagging	[%] 0.0	[%] 2.0478E-6	[%] 2.0385E-6	0.0	1.8783E-6	[m] 1.1068E+9	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: D | Sub-structure: D7

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0		[m] 1 0.0	[m] 0.14812	None	[%] 0.0	[%] 0.031872	[%] 0.031872	-318.62E-6	-232.27E-6	[m] 449540.	0 (Negligible)
		2 0.14812	4.4149	Hogging	0.0024258	0.038121	0.039448	-497.97E-6	-395.11E-6	16101.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Structure: D | Sub-structure: D8

Vertical Offset from Line for Vertical Movement Calculations	Segment	Start	Length	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Damage Category
[m] 0.0		[m] 1 0.0	[m] 6.8050	Hogging	[%] 1.4806E-6	[%] 14.064E-6	[%] 15.271E-6	0.0	6.8685E-6	[m] 57.400E+6	0 (Negligible)
		2 6.8050	4.2070	Sagging	0.0023777	-0.0061224	0.0017881	100.72E-6	145.69E-6	11855.	0 (Negligible)

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Specific Building Damage Results - Critical Values for All Segments within Each Sub-Structure

Structure: A | Sub-structure: A1

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m] 0.0	[%] 606.90E-6	[%] 0.065152	-371.32E-6	[mm] 2.3593	[%] 0.065308	-651.10E-6	-371.32E-6	[m] 25067.	[m] 34906.	1 (Very Slight)

Structure: A | Sub-structure: A2

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m] 0.0	[%] 0.0	[%] 55.843E-6	-9.8105E-6	[mm] 2.3841	[%] 55.826E-6	0.0	-9.8105E-6	[m] 1.2926E+9	[m] 2.4833E+9	0 (Negligible)

Structure: A | Sub-structure: A3

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m] 0.0	[%] 0.0038270	[%] 0.065152	-338.00E-6	[mm] 3.3988	[%] 0.068042	-651.10E-6	-338.00E-6	[m] 150640.	[m] 4152.1	1 (Very Slight)

Structure: A | Sub-structure: A4

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m] 0.0	[%] 1.9102E-6	[%] 8.5448E-6	0.0	[mm] 3.3989	[%] 10.264E-6	0.0	0.0	[m] -25.166E+6	[m] 0	0 (Negligible)

Structure: A | Sub-structure: A5

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m] 0.0	[%] 0.0036048	[%] 0.065174	362.66E-6	[mm] 3.3982	[%] 0.068061	-651.31E-6	362.66E-6	[m] 26928.	[m] 4344.0	1 (Very Slight)

Structure: A | Sub-structure: A6

Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m] 0.0	[%] 1.3799E-6	[%] 12.319E-6	6.0014E-6	[mm] 0.92831	[%] 13.340E-6	0.0	6.0014E-6	[m] 56.083E+6	[m] -0	0 (Negligible)

Structure: B | Sub-structure: B1

Vertical Offset from	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature	Min Radius of Curvature	Damage Category



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Line for Vertical Movement Calculations	Strain	Strain	Horizontal Displacement Curve	Displacement Curve	Curvature (Hogging)	Curvature (Sagging)						
[m]	[%]	[%]	[mm]	[%]	[m]	[m]						
Structure: B Sub-structure: B2												
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category		
[m]	[%]	[%]		[mm]	[%]			[m]	[m]			
Structure: B Sub-structure: B3												
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category		
[m]	[%]	[%]		[mm]	[%]			[m]	[m]			
Structure: B Sub-structure: B4												
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category		
[m]	[%]	[%]		[mm]	[%]			[m]	[m]			
Structure: B Sub-structure: B5												
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category		
[m]	[%]	[%]		[mm]	[%]			[m]	[m]			
0.0	0.0016321	0.031874	-176.06E-6	0.41518	0.032381	-318.64E-6	-176.06E-6	16220.		- 0 (Negligible)		
Structure: B Sub-structure: B6												
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category		
[m]	[%]	[%]		[mm]	[%]			[m]	[m]			
0.0	0.0	0.0	0.0	0.41629	0.0	0.0	0.0	686.78E+6		- 0 (Negligible)		
Structure: B Sub-structure: B7												
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category		
[m]	[%]	[%]		[mm]	[%]			[m]	[m]			
0.0	741.35E-6	0.031869	-247.12E-6	0.66395	0.031973	-318.58E-6	-247.12E-6	16223.		- 0 (Negligible)		
Structure: B Sub-structure: B8												
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category		
[m]	[%]	[%]		[mm]	[%]			[m]	[m]			
0.0	891.04E-6	-0.013887	-74.577E-6	0.78088	0.0028218	158.40E-6	-74.577E-6	13972.	31034.	0 (Negligible)		
Structure: B Sub-structure: B9												
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category		
[m]	[%]	[%]		[mm]	[%]			[m]	[m]			
0.0	0.0020191	0.023171	266.54E-6	0.78088	0.023835	-247.48E-6	266.54E-6	15462.		- 0 (Negligible)		
Structure: B Sub-structure: B10												
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category		
[m]	[%]	[%]		[mm]	[%]			[m]	[m]			
0.0	256.61E-6	-0.0053068	26.269E-6	0.26657	0.0010713	58.484E-6	26.269E-6		82824.	0 (Negligible)		
Structure: B Sub-structure: B11												
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category		
[m]	[%]	[%]		[mm]	[%]			[m]	[m]			
0.0	701.98E-6	0.029532	102.83E-6	0.23419	0.029661	-298.82E-6	102.83E-6	20304.		- 0 (Negligible)		
Structure: B Sub-structure: B12												
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category		
[m]	[%]	[%]		[mm]	[%]			[m]	[m]			
Structure: B Sub-structure: B13												



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Vertical Offset from Line for Vertical	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Structure: B Sub-structure: B14										
Vertical Offset from Line for Vertical Movement Calculations [m]	[%]	[%]		[mm]	[%]			[m]	[m]	
Structure: B Sub-structure: B15										
Vertical Offset from Line for Vertical Movement Calculations [m]	[%]	[%]		[mm]	[%]			[m]	[m]	
Structure: B Sub-structure: B16										
Vertical Offset from Line for Vertical Movement Calculations [m]	[%]	[%]		[mm]	[%]			[m]	[m]	
Structure: B Sub-structure: B17										
Vertical Offset from Line for Vertical Movement Calculations [m]	[%]	[%]		[mm]	[%]			[m]	[m]	
Structure: B Sub-structure: B18										
Vertical Offset from Line for Vertical Movement Calculations [m]	[%]	[%]		[mm]	[%]			[m]	[m]	
Structure: B Sub-structure: B19										
Vertical Offset from Line for Vertical Movement Calculations [m]	[%]	[%]		[mm]	[%]			[m]	[m]	
Structure: B Sub-structure: B20										
Vertical Offset from Line for Vertical Movement Calculations [m]	[%]	[%]		[mm]	[%]			[m]	[m]	
Structure: C Sub-structure: C1										
Vertical Offset from Line for Vertical Movement Calculations [m]	[%]	[%]	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
0.0	0.0084332	0.063977	502.00E-6	5.1822	0.071904	-704.55E-6	502.00E-6	[m]	-	3636.1 1 (Very Slight)
Structure: C Sub-structure: C2										
Vertical Offset from Line for Vertical Movement Calculations [m]	[%]	[%]	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
0.0	0.0058891	-0.022981	377.93E-6	4.0587	0.0056510	351.44E-6	377.93E-6	[m]	-	4128.5 0 (Negligible)
Structure: C Sub-structure: C3										
Vertical Offset from Line for Vertical Movement Calculations [m]	[%]	[%]	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
0.0	818.50E-6	0.033834	429.45E-6	3.2736	0.033856	-346.47E-6	429.45E-6	[m]	[m]	56349. 17040. 0 (Negligible)
Structure: C Sub-structure: C4										
Vertical Offset from Line for Vertical Movement Calculations [m]	[%]	[%]	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
0.0	0.0019260	-0.014991	-205.47E-6	2.4259	0.0031861	171.22E-6	-205.47E-6	[m]	-	6113.9 0 (Negligible)



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Vertical Offset from Line for Vertical	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
Structure: C Sub-structure: C5										
Calculations	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	206.44E-6	0.0083672	204.18E-6	2.4259	0.0084226	-84.334E-6	204.18E-6	114140.	-	0 (Negligible)
Structure: C Sub-structure: C6										
Calculations	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0	5.5349E-6	-4.9084E-6	2.0386	5.8293E-6	0.0	-4.9084E-6	166.76E+6	-	0 (Negligible)
Structure: C Sub-structure: C7										
Calculations	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0	0.051030	-481.57E-6	2.2520	0.051030	-510.04E-6	-481.57E-6	-	-	1 (Very Slight)
Structure: C Sub-structure: C8										
Calculations	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0	5.4493E-6	-5.1048E-6	2.2775	5.6148E-6	0.0	-5.1048E-6	194.50E+6	-	0 (Negligible)
Structure: C Sub-structure: C9										
Calculations	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	695.22E-6	0.055210	-547.93E-6	3.6751	0.055217	-553.86E-6	-547.93E-6	23698.	100440.	1 (Very Slight)
Structure: C Sub-structure: C10										
Calculations	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0	5.9096E-6	5.5727E-6	3.6754	5.9009E-6	0.0	5.5727E-6	-	434.17E+6	0 (Negligible)
Structure: C Sub-structure: C11										
Calculations	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0091272	0.063075	-534.77E-6	5.1795	0.072926	-708.14E-6	-534.77E-6	-	3562.2	1 (Very Slight)
Structure: C Sub-structure: C12										
Calculations	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	3.6969E-6	6.2724E-6	-1.7955E-6	5.1389	11.909E-6	0.0	-1.7955E-6	-	36.888E+6	0 (Negligible)
Structure: D Sub-structure: D1										
Calculations	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	0.0015138	0.029196	300.91E-6	1.1938	0.029870	-382.53E-6	300.91E-6	21562.	72659.	0 (Negligible)
Structure: D Sub-structure: D2										
Calculations	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0	131.05E-6	284.54E-6	61.663E-6	0.17032	328.48E-6	-9.8796E-6	61.663E-6	-	92119.	0 (Negligible)
Structure: D Sub-structure: D3										
Calculations	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0										
Structure: D Sub-structure: D4										
Calculations	[%]	[%]		[mm]	[%]			[m]	[m]	
0.0										



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Vertical Movement Calculations	Displacement Curve	Curve (Hogging)	(Sagging)	Damage Category						
[m]	[%]	[%]	[mm]	[%]						
[m]	[%]	[%]	[mm]	[%]						
Structure: D Sub-structure: D5										
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]	[mm]	[mm]	[%]	[mm]	[mm]	[m]	[m]	
0.0	0.0	0.031873	-251.88E-6	0.24733	0.031873	-318.63E-6	-251.88E-6	-	7078.8	0 (Negligible)
Structure: D Sub-structure: D6										
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]	[mm]	[mm]	[%]	[mm]	[mm]	[m]	[m]	
0.0	0.0	2.0478E-6	1.8783E-6	0.24739	2.0385E-6	0.0	1.8783E-6	-	1.1068E+9	0 (Negligible)
Structure: D Sub-structure: D7										
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]	[mm]	[mm]	[%]	[mm]	[mm]	[m]	[m]	
0.0	0.0024258	0.038121	-395.11E-6	1.5825	0.039448	-497.97E-6	-395.11E-6	16101.	-	0 (Negligible)
Structure: D Sub-structure: D8										
Vertical Offset from Line for Vertical Movement Calculations	Deflection Ratio	Average Horizontal Strain	Max Slope	Max Settlement	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
[m]	[%]	[%]	[mm]	[mm]	[%]	[mm]	[mm]	[m]	[m]	
0.0	0.0023777	-0.0061224	145.69E-6	1.5828	0.0017881	100.72E-6	145.69E-6	57.400E+6	11855.	0 (Negligible)

Specific Building Damage Results - Critical Segments within Each Structure

Structure Name	Parameter	Critical Sub-Structure	Critical Segment	Start	End	Curvature	Max Slope	Max Settlement	Max Tensile Strain	Min Radius of Curvature (Hogging)	Min Radius of Curvature (Sagging)	Damage Category
				[m]	[m]			[mm]	[%]	[m]	[m]	
A	Max Slope	A1	1	0.0	3.0866	Hogging	371.32E-6	1.9356	0.034780	25067.	-	0 (Negligible)
	Max Settlement	A4	1	0.0	3.8980	Sagging	0.0	3.3989	10.264E-6	-	25.166E+6	0 (Negligible)
	Max Tensile Strain	A5	1	0.0	3.3782	Sagging	338.04E-6	3.3982	0.068061	-	4344.0	1 (Very Slight)
	Min Radius of Curvature (Hogging)	A1	1	0.0	3.0866	Hogging	371.32E-6	1.9356	0.034780	25067.	-	0 (Negligible)
	Min Radius of Curvature (Sagging)	A3	2	0.62828	3.7820	Sagging	338.00E-6	3.3988	0.068042	-	4152.1	1 (Very Slight)
B	Max Slope	B9	1	0.0	2.5960	Hogging	266.54E-6	0.78088	0.023835	15462.	-	0 (Negligible)
	Max Settlement	B9	1	0.0	2.5960	Hogging	266.54E-6	0.78088	0.023835	15462.	-	0 (Negligible)
	Max Tensile Strain	B5	1	3.9167	6.3640	Hogging	176.06E-6	0.41518	0.032381	16220.	-	0 (Negligible)
	Min Radius of Curvature (Hogging)	B8	1	0.0	8.3969	Hogging	74.577E-6	0.71312	386.27E-6	13972.	-	0 (Negligible)
Min Radius of Curvature (Sagging)	B8	2	8.3969	10.614	Sagging	63.837E-6	0.78088	0.0028218	-	31034.	0 (Negligible)	
C	Max Slope	C9	1	0.0	2.0541	Hogging	547.93E-6	3.3672	0.053075	23698.	-	1 (Very Slight)
	Max Settlement	C1	1	0.0	4.1060	Sagging	502.00E-6	5.1822	0.071904	-	3636.1	1 (Very Slight)
	Max Tensile Strain	C11	1	0.0	4.9410	Sagging	534.77E-6	5.1795	0.072926	-	3562.2	1 (Very Slight)
	Min Radius of Curvature (Hogging)	C9	1	0.0	2.0541	Hogging	547.93E-6	3.3672	0.053075	23698.	-	1 (Very Slight)
Min Radius of Curvature (Sagging)	C11	1	0.0	4.9410	Sagging	534.77E-6	5.1795	0.072926	-	3562.2	1 (Very Slight)	
D	Max Slope	D7	2	0.14812	4.5630	Hogging	395.11E-6	1.5825	0.039448	16101.	-	0 (Negligible)
	Max Settlement	D8	1	0.0	6.8050	Hogging	6.8685E-6	1.5828	15.271E-6	57.400E+6	-	0 (Negligible)
	Max Tensile Strain	D7	2	0.14812	4.5630	Hogging	395.11E-6	1.5825	0.039448	16101.	-	0 (Negligible)
	Min Radius of Curvature (Hogging)	D7	2	0.14812	4.5630	Hogging	395.11E-6	1.5825	0.039448	16101.	-	0 (Negligible)
	Min Radius of Curvature (Sagging)	D5	2	2.8104	3.0920	Sagging	238.39E-6	0.24733	0.031873	-	7078.8	0 (Negligible)